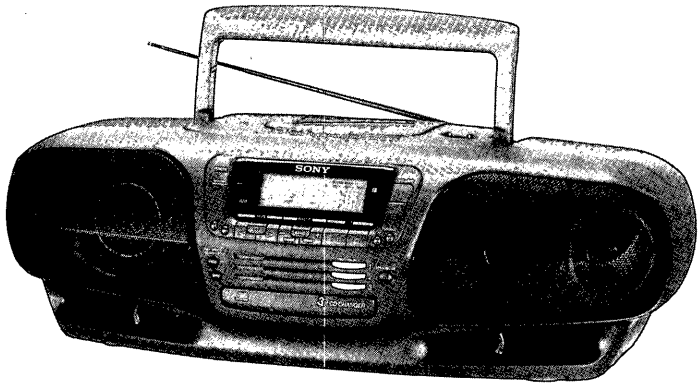
ZSX-5000

SERVICE MANUAL

AEP Model
UK Model



CD Section	Model Name Using Similar Mechanism	NEW
	CD Changer Block Type	CH-G7000-115
	CD Mechanism Type	KSM-213BCN
	Optical Pick-up Name	KSS-213B/KN
Tape Section	Model Name Using Similar Mechanism	PMC-301L
	Tape Transport Mechanism Type	MF-ZSX5000-105

SPECIFICATIONS

CD player section

System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wave length:780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW (This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels
2
Frequency response
20 - 20,000 Hz +1/–2 dB
Wow and flutter
Below measurable limit

Radio section

Frequency range

FM	87.6 - 107 MHz
MW	531 - 1,602 kHz
LW	153 - 279 kHz

IF
FM: 10.7 MHz
MW/LW: 450 kHz
Aerials
FM: Telescopic aerial
MW/LW: Built-in ferrite bar aerial

Cassette-corder section

Recording system
4-track 2 channel stereo
Fast winding time
Approx. 120s (sec.) with Sony cassette C-60
Frequency response
TYPE I (normal): 40 - 16,000 Hz
TYPE II (CrO_2): 40 - 17,000 Hz
TYPE IV (metal): 40 - 18,000 Hz

General

Speaker
Full range: 8 cm (3 1/4 in.) dia., cone type x 2
Tweeter: 5 cm (2 in.) dia. x 2
Inputs
MIX MIC jack (minijack):
Sensitivity 2.45 mV
For low impedance microphone
LINE IN jack (stereo minijack)
Sensitivitsy 435 mV
Outputs
Headphones jack (stereo minijack)
For 16 - 64 ohms impedance headphones
Maximum power output
10 W + 10 W

—continued on next page—

使用時は添付資料も参照のこと
Refer to the additional documents

PERSONAL AUDIO SYSTEM
SONY®

Power requirements
For CD radio cassette-corder:

UK model
230 -240 V AC, 50 Hz
AEP model
220 - 230 V AC, 50 Hz

For remote commander:
3 V DC, 2 R6 (size AA) batteries
Power consumption
AC 37 W

Dimensions
approx. 640 × 205 × 304 mm (w/h/d)
(25 ⅛×8 ⅛× 12 ⅞ inches) (incl. projecting parts)
Mass
approx. 8.5 kg (18 lb. 12 oz) (incl. batteries)
Supplied accessories
AC power cord (1)
Remote commander RMT-C5000A (1)

Design and specifications are subject to change without notice.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

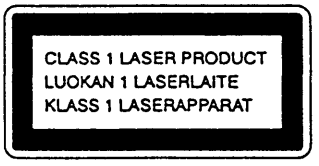
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the changed electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMSSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25cm away from the objective lens.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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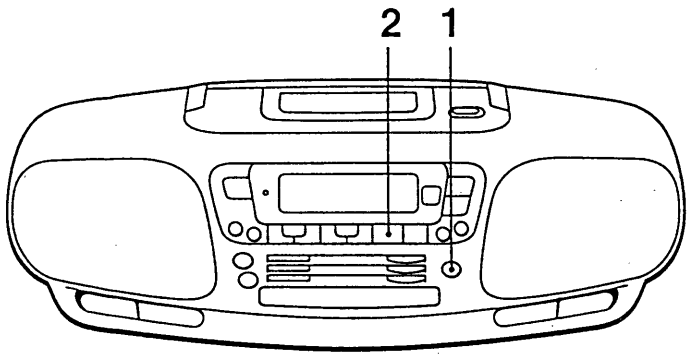
Playing a CD



Connect the supplied AC power cord (see page 35.)

1

OPEN/CLOSE

Press ≜ OPEN/CLOSE (direct power-on) and place the disc on the disc tray. Be sure to align the center of the CD with the center of the disc tray.

With the label side up

Notes

- Place the 8-cm (3-inch) CD into the center of the disc tray. Do not use an adaptor for single-CDs.
- Place one CD only on the disc tray. If you place two or three CDs and close the tray, you will not be able to pull out the tray. (See "Playing multiple discs" on page 12.)

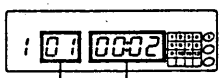
2

CD

Press ▶II.

The disc tray closes and the player plays all the tracks once.

Display

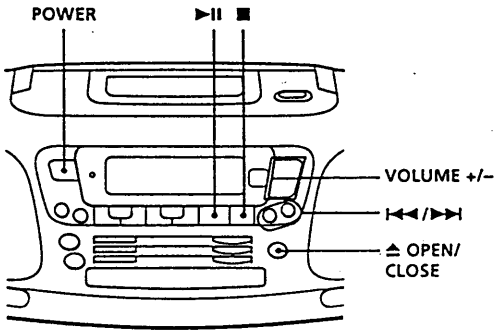


Track number Playing time

Tips

- If "ALL DISCS" lights up, the player plays other CDs in numerical sequence. To play only one CD, press DISC MODE to select "1 DISC."
- Next time you want to listen to a CD, just press ▶II. The player turns on automatically and starts playing the CD.

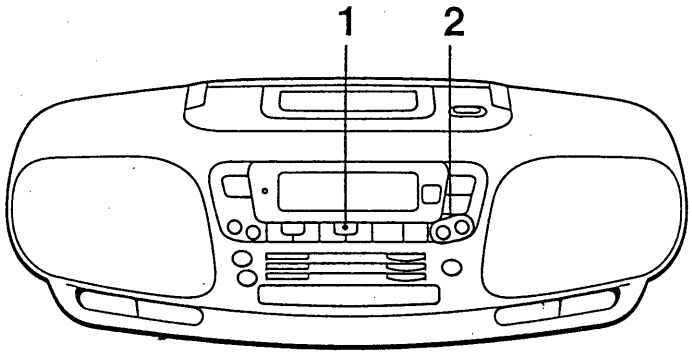
Use these buttons for additional operations



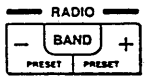
To	Press
Adjust the volume	VOLUME +/–
Stop playback	■
Pause playback	▶II Press again to resume play after pause.
Go to the next track	▶▶I
Go back to the previous track	I◀◀
Remove the CD	≜ OPEN/CLOSE
Turn on/off the player	POWER

This section is extracted from instruction manual.

Listening to the radio

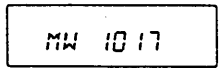


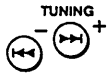
Connect the supplied AC power cord (see page 35.)

1 

Press BAND until the band you want appears in the display (direct power-on).

Display



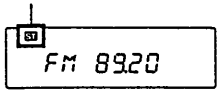
2 

Hold down TUNING +/– until the frequency digits begin to change in the display.

The player automatically scans the radio frequencies and stops when it finds a clear station.

If you can't tune in a station, press the button once at a time.

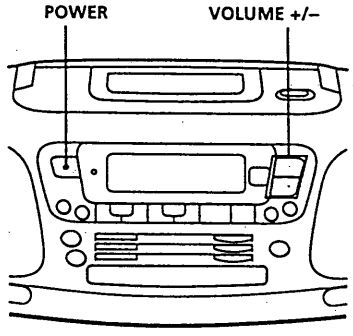
Indicates an FM stereo broadcast.



Tips

- If the FM broadcast is noisy, press RADIO MODE on the remote until "MONO" appears in the display and the radio will play in monaural.
- Next time you want to listen to the radio, just press the BAND button. The player turns on automatically and starts playing the previous station.

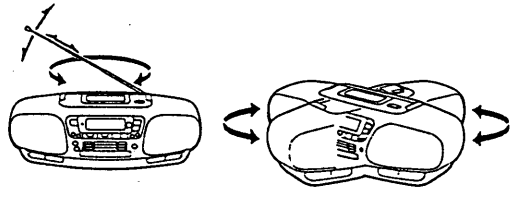
Use these buttons for additional operations



To	Press
Adjust the volume	VOLUME +/–
Turn on/off the radio	POWER

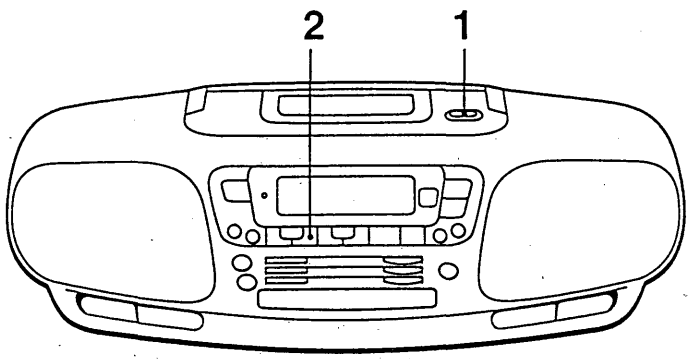
To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for MW/LW.



For FM For MW/LW

Playing a tape



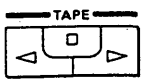
Connect the supplied AC power cord (see page 35.)

1

Press ≜ to open the tape compartment and insert a recorded tape. Close the compartment.

With the side you want to play facing up.

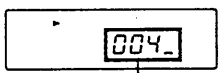
2



Press ►.

The player turns on (direct power-on) and starts playing.

Display

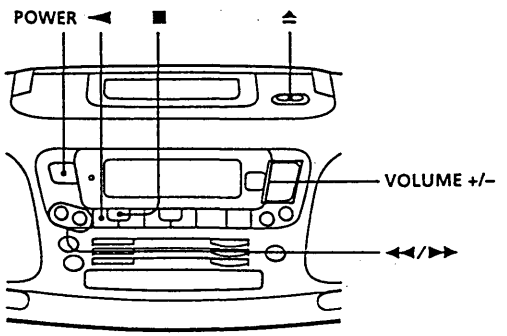


Tape counter

Tips

- Press COUNTER RESET on the remote to reset the counter to "000." (on the remote only)
- When you listen to a tape recorded with the Dolby B NR system, press DOLBY NR on the remote until "DD DOLBY B NR" appears in the display.
- Next time you want to listen to a tape, just press ► or ◄. The player turns on automatically and starts playing the tape.
- You can use either TYPE I (normal), TYPE II (CrO_2), or TYPE IV (metal) tapes for playback and recording.

Use these buttons for additional operations



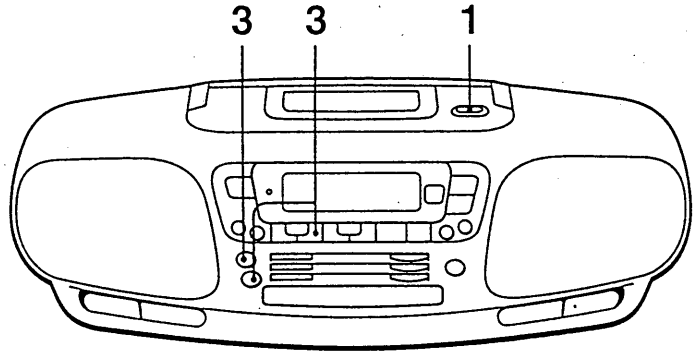
To	Press
Adjust the volume	VOLUME +/–
Stop playback	■
Play the reverse side	◄
Fast-forward or rewind the tape	►► or ◄◄
Eject the cassette	≜
Turn on/off the player	POWER

To select the direction of the tape

Press DIR MODE on the remote repeatedly (on the remote only.)

To play	Display shows
One side of the tape	⇉
Both sides of the tape from the front side to reverse side only	⇄
Both sides of the tape repeatedly	↻

Recording on a tape



Connect the supplied AC power cord (see page 35.)

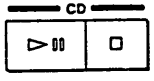
1

Press ⏏ to open the tape compartment and insert a blank tape.

With the side you want to record on facing up

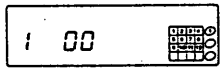
2

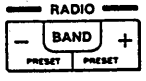
Select the program source you want to record.



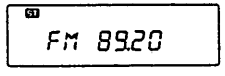
To record from the CD player, insert a CD (see page 4) and press ■ on the CD section.

Display





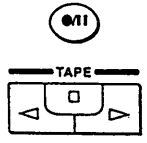
To record from the radio, press BAND and tune in the station you want (see page 6.)



3

Start recording.

To record from the CD player, press HIGH SPEED DUBBING START.
To record in normal speed, while keep pressing ●/II on the remote, press DUBBING SPEED NORMAL.

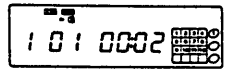


To record from the radio, press ●/II and then ►.

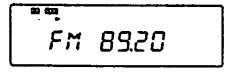
Note

If recording does not start, press ●/II and then ► again.

Recording from the CD player



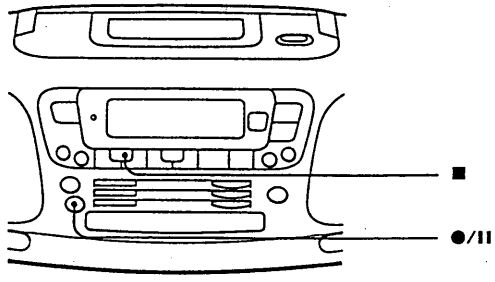
Recording from the radio



Tips

- To start recording on the remote, while keep pressing ●/II, press DUBBING SPEED HIGH (to record from CD player) or ► on the tape section (to record fromthe radio.)
- Adjusting the volume or the audio emphasis (see page 37) will not affect the recording level.
- When ⇄ is displayed, recording will be made on both sides of the tape. To record on one side, press DIR MODE on the remote to display ⇄. (on the remote only)
- If the MW/LW radio makes a whistling sound after you've pressed ●/II in step 3, press RADIO MODE on the remote to select the position that most decreases the noise.

Use these buttons for additional operations



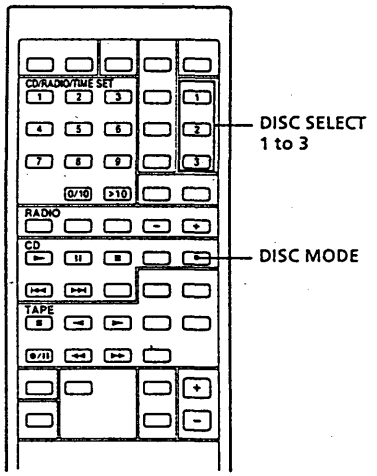
To	Press
Stop recording	■
Pause recording	●/II Press the button again to resume recording.

To record with the Dolby B NR (noise reduction) system

Press DOLBY NR on the remote until "DD DOLBY B NR" appears in the display before you start recording. Note that you can't use the system when you record a CD at high speed.

Playing multiple discs

You can play up to 3 CDs one after another.



Note

Place one CD only on the disc tray. If you place two or three CDs and close the tray, you will not be able to pull out the tray.

Tips

- To play only one CD, press DISC MODE to select "1 DISC."
- To start play with DISC SELECT 2 or 3 and play all the discs in the disc trays, press PLAY MODE to display "REP ALL."

1 Insert the CD you want to play first.

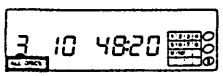
Press DISC SELECT 1 to select the disc tray. Press ⏏ on the player and place a CD on the disc tray.

2 Press ⏏ on the player to close the disc tray.

The DISC SELECT 1 indicator on the player lights up, which shows a CD is inserted into the disc tray 1.

3 Insert the CD you want to play second into the disc tray 2, and the CD you want to play third into the disc tray 3. (See step 1 and 2.)

4 Press DISC MODE to select "ALL DISCS."

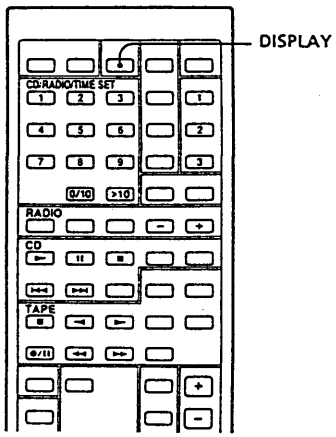


5 Press DISC SELECT 1.

Play starts from the CD on the disc tray 1, followed by the CDs on the disc tray 2 and 3. The indicator of the selected disc tray blinks slowly. The indicator goes off when play of the CD on the disc tray 3 stops.

Using the display

You can check information about the disc using the display.



Tip

When two or three CDs are inserted, select the CD you want to check information about by pressing DISC SELECT 1 to 3.

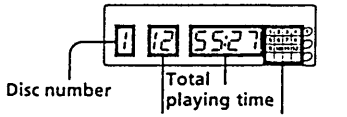
* For a track whose number is more than 16 the remaining time appears as "−−:−−".

** If the remaining tracks are over 99, "−−" appears instead of the track number. If the remaining time is over 99 minutes, "−−:−−" appears instead of the remaining time.

Checking the total track numbers and playing time

Press DISPLAY in stop mode.

If the disc has more than 16 tracks, "OVER 16" appears in the display.



Checking the remaining time

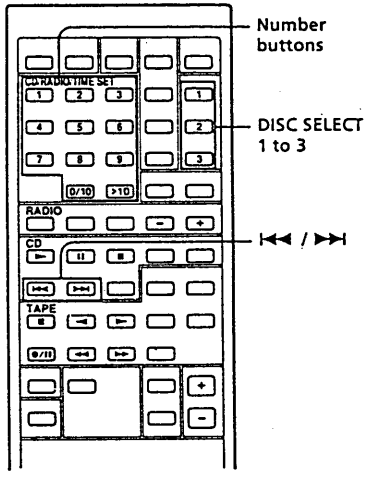
Press DISPLAY while playing a disc.

The track numbers in the music calendar disappear after they are played.

To display	Press DISPLAY
Remaining time on the current track*	Once
Remaining time on the disc and the number of tracks left**	Twice
Playing time and the current track number	Three times

Locating a specific track

You can quickly locate any track using the number buttons. You can also find a specific point in a track while playing a disc.



Note

You cannot start play if "PGM REPEAT", "SHUF REPEAT" or "PGM" is lit in the display. Turn off the indication by pressing ■.

Tip

When you locate a track numbered over 10, press > 10 first, then the corresponding number buttons.

Example:

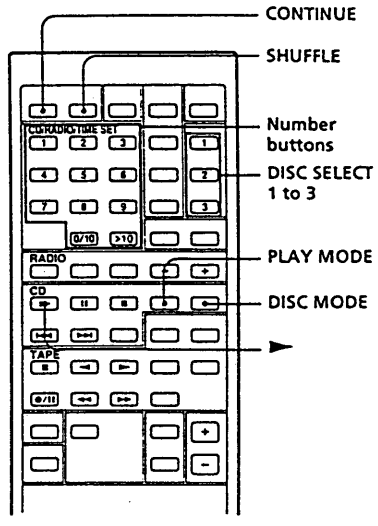
To play track number 23, press >10 first, then 2 and 3.

To locate	Press
a specific track directly	one of the DISC SELECT 1 to 3 buttons to select the disc and a number button of the track.
a point while listening to the sound	⏭ (forward) or ⏮ (backward) while playing and hold down until you find the point.
a point while observing the display	⏭ (forward) or ⏮ (backward) in pause and hold down until you find the point.

Playing tracks repeatedly

(Repeat Play)

You can play tracks repeatedly in normal, shuffle or program play modes (see pages 17 – 18.).



Playing discs repeatedly using CD RELAY PLAY buttons

Press either CONTINUE or SHUFFLE.

To play all CDs repeatedly	Press
in numerical sequence	CONTINUE. "ALL DISCS REPEAT ALL" appears in the display.
in random order	SHUFFLE. "ALL DISCS REPEAT SHUF" appears in the display.

continued

Playing tracks repeatedly

1 Press PLAY MODE until the repeat mode you want appears in the display.

To repeat	Select
a single track	REPEAT 1
all the tracks	REPEAT ALL
tracks in random order	REPEAT SHUF
programmed tracks	REPEAT PGM and then program tracks (see steps 3-5 on page 17).

2 Do either of the following to start repeat play:

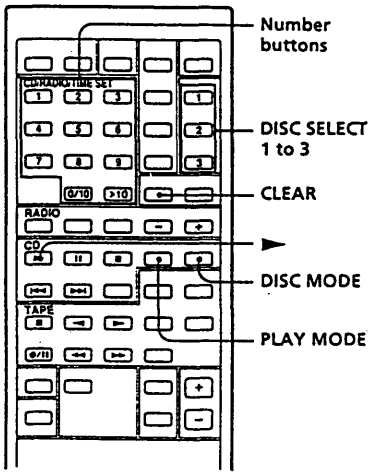
- **When you've selected REPEAT1,** select the disc by pressing one of the DISC SELECT 1 to 3 buttons, then select the track by pressing the number button.
- **When you've selected REPEAT ALL,** press DISC MODE to select "ALL DISCS" (to repeat all discs) or "1 DISC" (to repeat only 1 disc). If you select "1 DISC," then press one of the DISC SELECT 1 to 3 buttons to select the disc you want.
- **When you've selected REPEAT SHUF,** press DISC MODE to select "ALL DISCS" (to repeat tracks in all discs in different order) or "1 DISC" (to repeat only one disc in different order). Then, press ►.
- **When you've selected REPEAT PGM,** press ►.

Tips
- To stop repeat play, press ■ on the CD section.
- You can record repeat play. While keep pressing ●/II, press DUBBING SPEED NORMAL. You cannot record at high speed.

Creating your own program

(Program Play)

You can make a program of up to 20 tracks from all the CDs in the order you want them to be played.



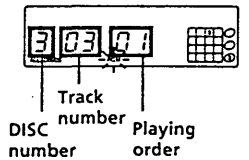
Tip
You can program one whole CD as one program step. Repeat step 3 and select another disc tray by pressing one of the DISC SELECT 1 to 3 buttons.

1 Press PLAY MODE until "PGM" appears in the display.

2 Press DISC MODE to select "ALL DISCS".

3 Press one of the DISC SELECT 1 to 3 buttons to select the disc tray.

4 Press the number buttons for the tracks you want to program in the order you want. You can program up to 20 tracks. Programmed tracks appear in the music calendar.



If you made a mistake, press CLEAR and re-enter the track number.

To program additional tracks from another disc, repeat steps 3 and 4.

5 Press ► to start program play.

continued

To cancel Program Play

Press PLAY MODE until no indication appears in the display.

To check the order of tracks before play

Press ENTER.

Every time you press the button, the track number appears in the programmed order.

To change the current program

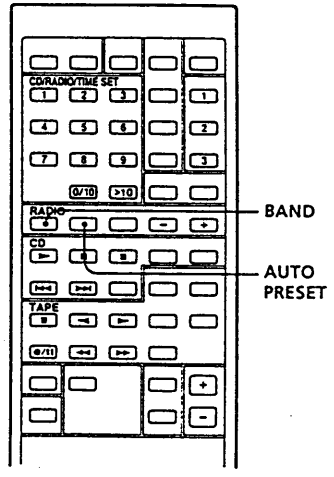
To	Do this
Erase the last track in the program	1 Press CLEAR. Every time you press the button, the last track in the program is cleared. 2 Re-enter the track numbers.
Change the whole program completely.	Press ■. Then create a new program following the programming procedure.

Tips

- You can play the same program again, since the program is saved until you open the disc tray.
- You can record program play. While keep pressing ●/II, press DUBBING SPEED NORMAL. You cannot record at high speed.

Presetting radio stations

You can store radio stations into the player's memory. You can preset up to 36 radio stations, 12 for each band in any order.



1 Press BAND until the band you want appears in the display.

2 Press AUTO PRESET until "AUTO" appears.

The stations are stored in memory from the lower frequencies unless a station has a weak signal.

If a station cannot be preset automatically

You need to preset a station with a weak signal manually. Also, when you want to replace a preset station with a new one, do the following:

1 Press BAND until the band you want appears in the display.

2 Tune in a station you want.

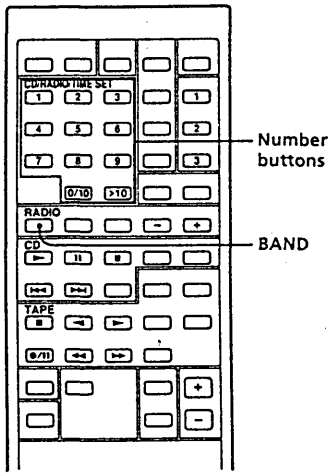
3 Hold down the number buttons that you want to preset the new station for about 2 seconds.

To select the preset number over 10, press >10 first, then the corresponding number buttons. You need to hold down the last number button to enter for about 2 seconds. (Example: To select 12, press >10, then hold down 2 for about 2 seconds.)

The new station replaces the old one.

Playing preset radio stations

Once you've preset the stations, use the number buttons to tune in your favorite stations.



Tips

- You can tune in a preset station with the player. Use PRESET +/– instead of the number buttons.
- Once you've preset the stations, next time you want to listen to the radio, just press PRESET +/–. The player turns on automatically and starts playing a stored station.

1 Press BAND to select the band.

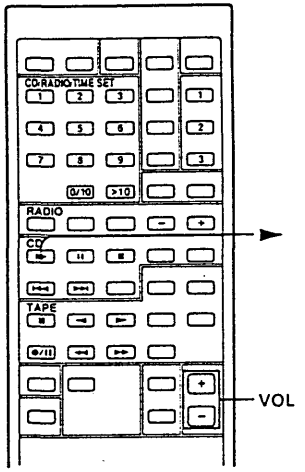
2 Press the number buttons to tune in a stored station.

To tune in a preset station over 10, press >10 first, then the corresponding number buttons.

(Example: To tune in a preset station 11, press >10, and then press 1.)

Singing in the Karaoke system

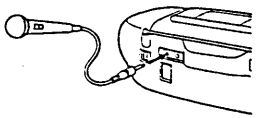
You can sing in the Karaoke system by using a microphone (not supplied) and a CD for Karaoke use.
If you use the KARAOKE PON function, you can enjoy Karaoke, using a CD or tape with vocals.



Notes

- Acoustic feedback (howling) tends to occur when you use a microphone with echo function.
- If acoustic feedback (howling) occurs, turn down the volume or move the microphone away from the speaker.

1 Plug the microphone into the MIX MIC jack and turn on the microphone if it has a power switch.



2 Insert a CD.

3 Press ► on the CD section.

Play starts.

4 Adjust the volume.

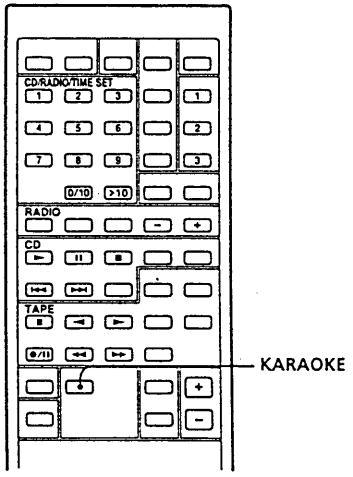
Recording Karaoke sound and your voice

1 Insert a cassette for recording.

2 While keep pressing ●/II, press ►.

3 Do steps 1 to 4 above.

continued



Notes

- When you use the KARAOKE PON function, use the stereo recorded source . When you use the monaural recorded source, instruments may also be reduced.
- The KARAOKE PON function may not work on certain sources, even if they are recorded in stereo.
- When you use the KARAOKE PON function, the sound will not be heard in stereo.
- When you use the KERAOKE PON or KARAOKE MPX function, you cannot record the Karaoke play at high speed.

Useful function for Karaoke

To reduce the vocals (KARAOKE PON)

You can enjoy Karaoke, using a CD or tape with vocals. When "KARAOKE PON" is displayed, the vocals will be reduced so that you can sing instead of the singer.

Before starting play, press KARAOKE until "KARAOKE PON" appears in the display.

You can also enjoy Karaoke, using the sound source connected to the LINE IN jack (TV or VCR)

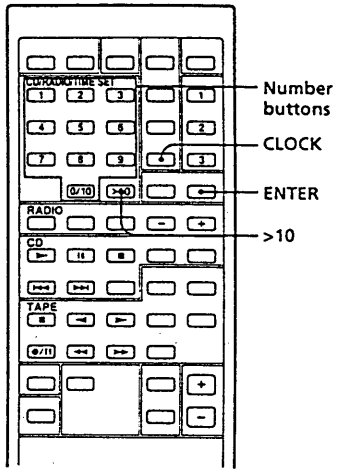
To sing along with multiplex CDs or tapes (KARAOKE MPX)

Before starting play, press KARAOKE until "KARAOKE MPX" appears in the display.

You can hear the left channel sound (instruments) of multiplex CDs or tapes from both speakers.

Setting the clock

"–:– –" indication appears in the display until you set the clock.



Tip

The time display system of this player is the 24-hour system.

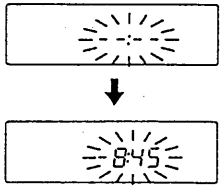
Before you begin, connect the AC power cord (see page 35.)

1 Press and hold CLOCK until the hour digit flashes.

2 Set the clock.

Press the number buttons to set the hour and the minute digits.

Ex. To set 8:45, press 8 → 4 → 5.



3 Press ENTER.

The clock starts from 00 seconds.

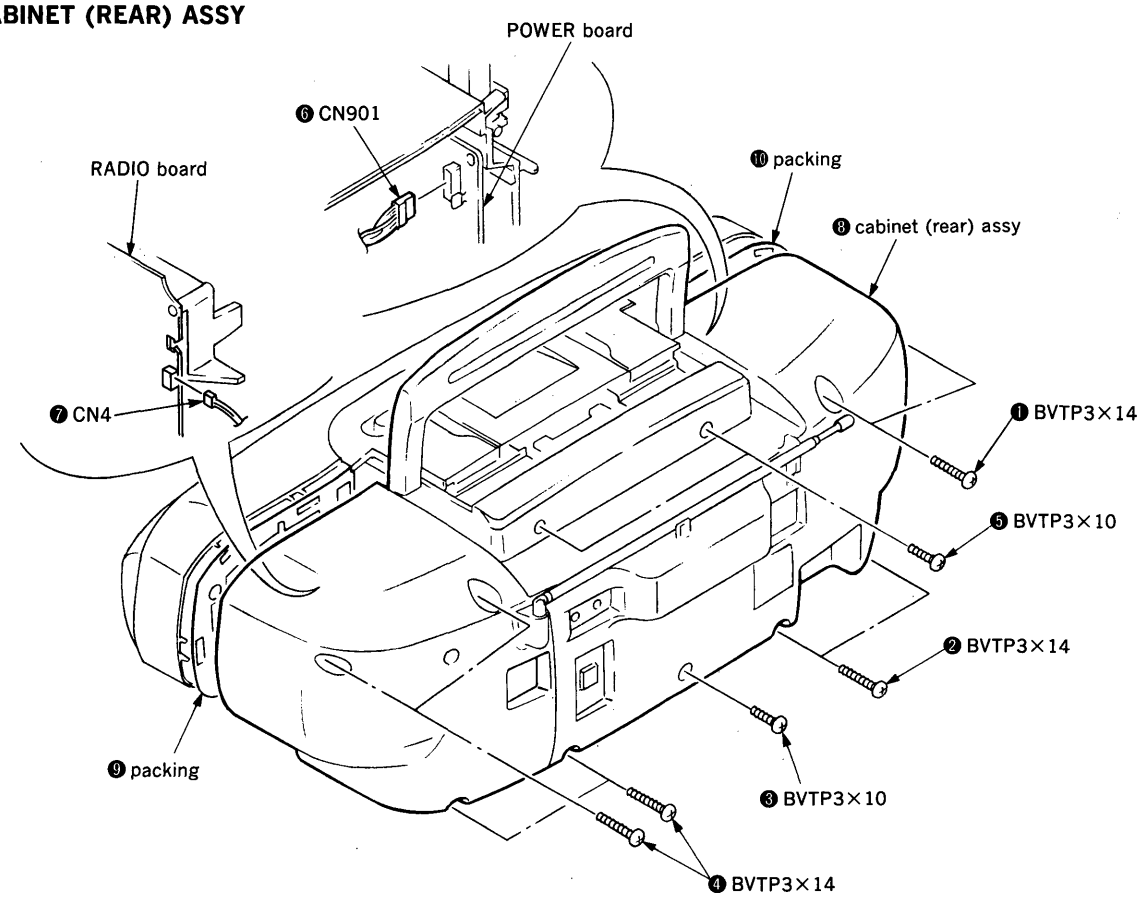
To check the time while playing

Press CLOCK. To return to the previous display, press CLOCK again.

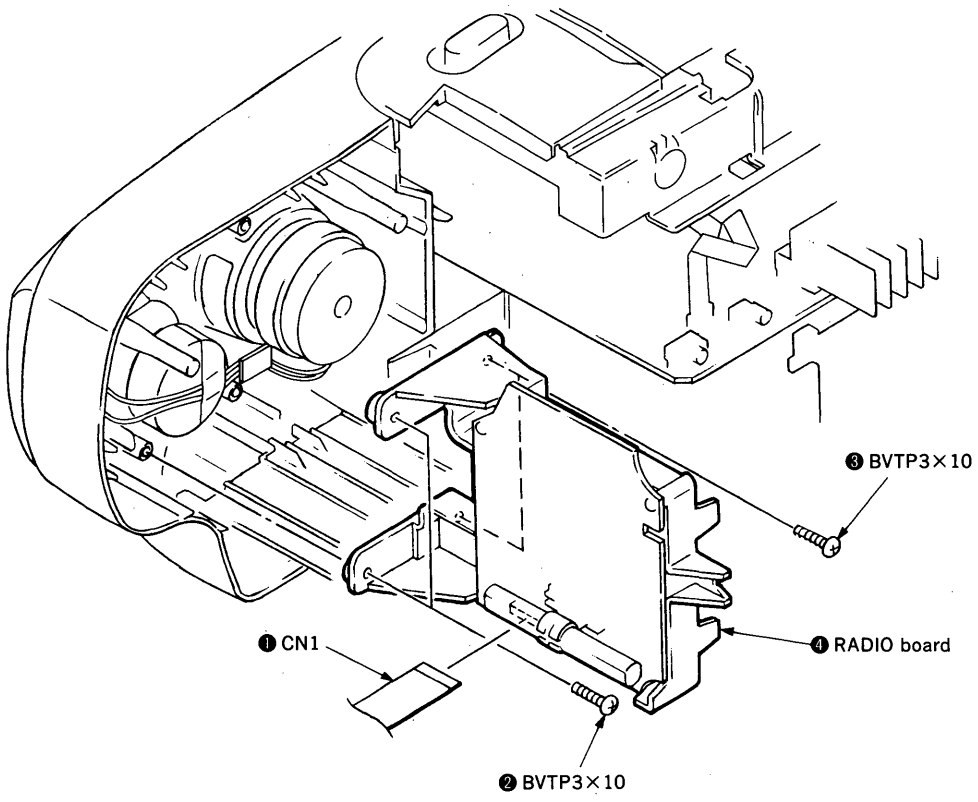
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

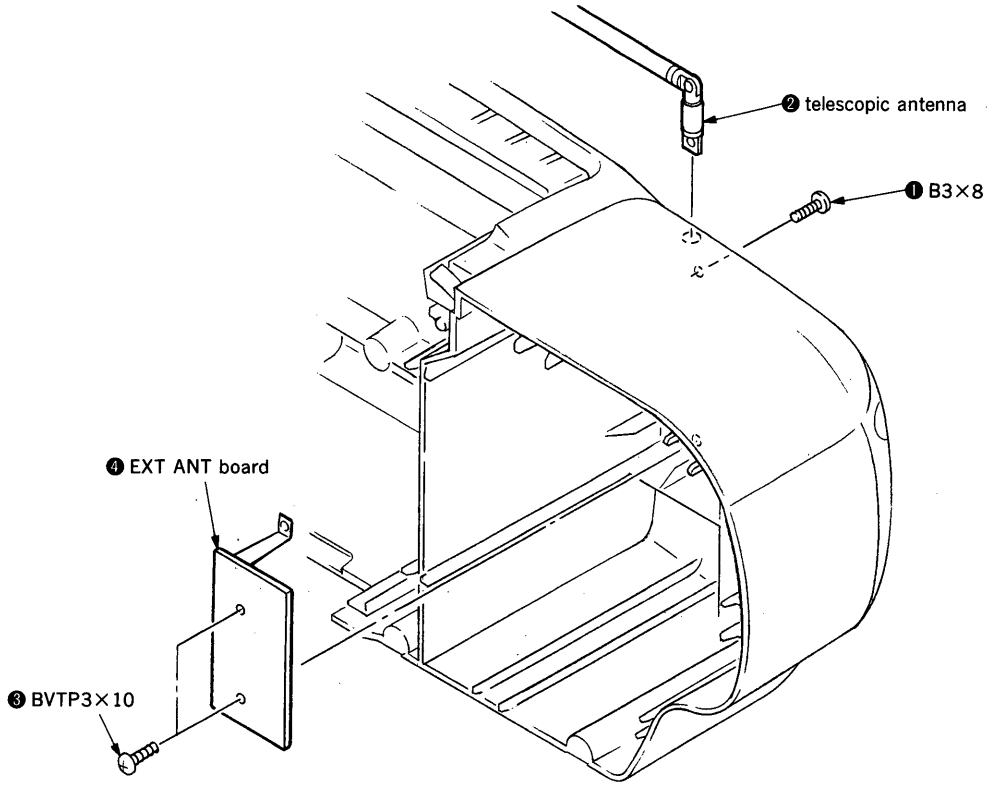
2-1. CABINET (REAR) ASSY



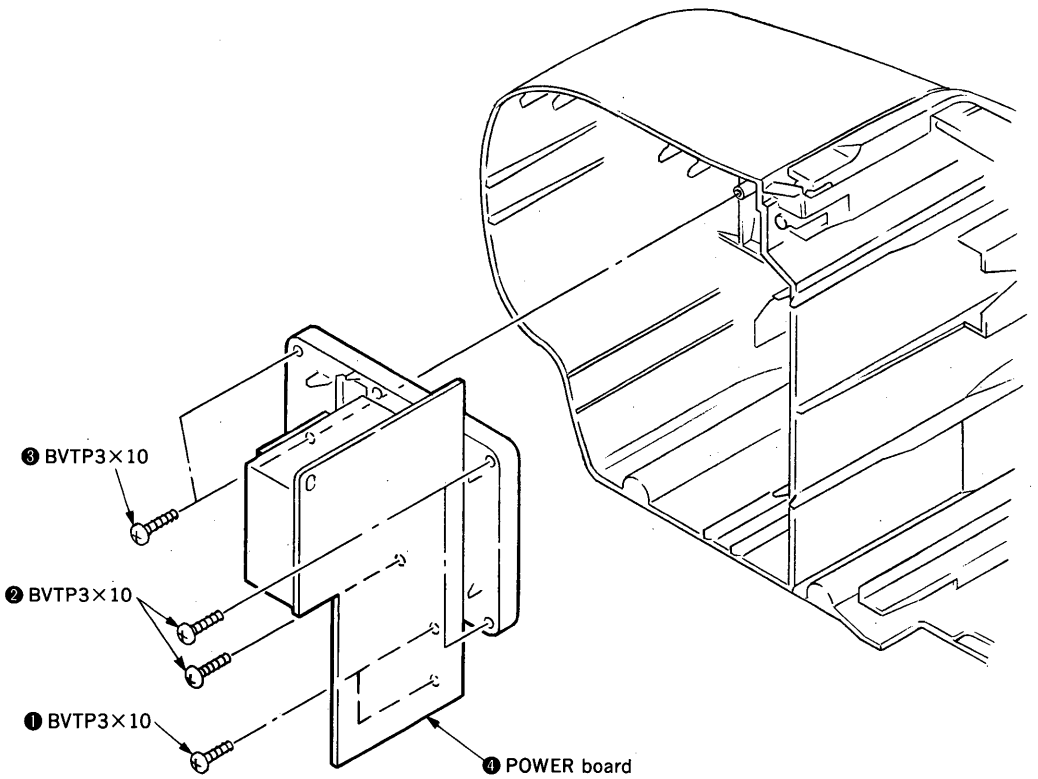
2-2. RADIO BOARD



2-3. EXT ANT BOARD

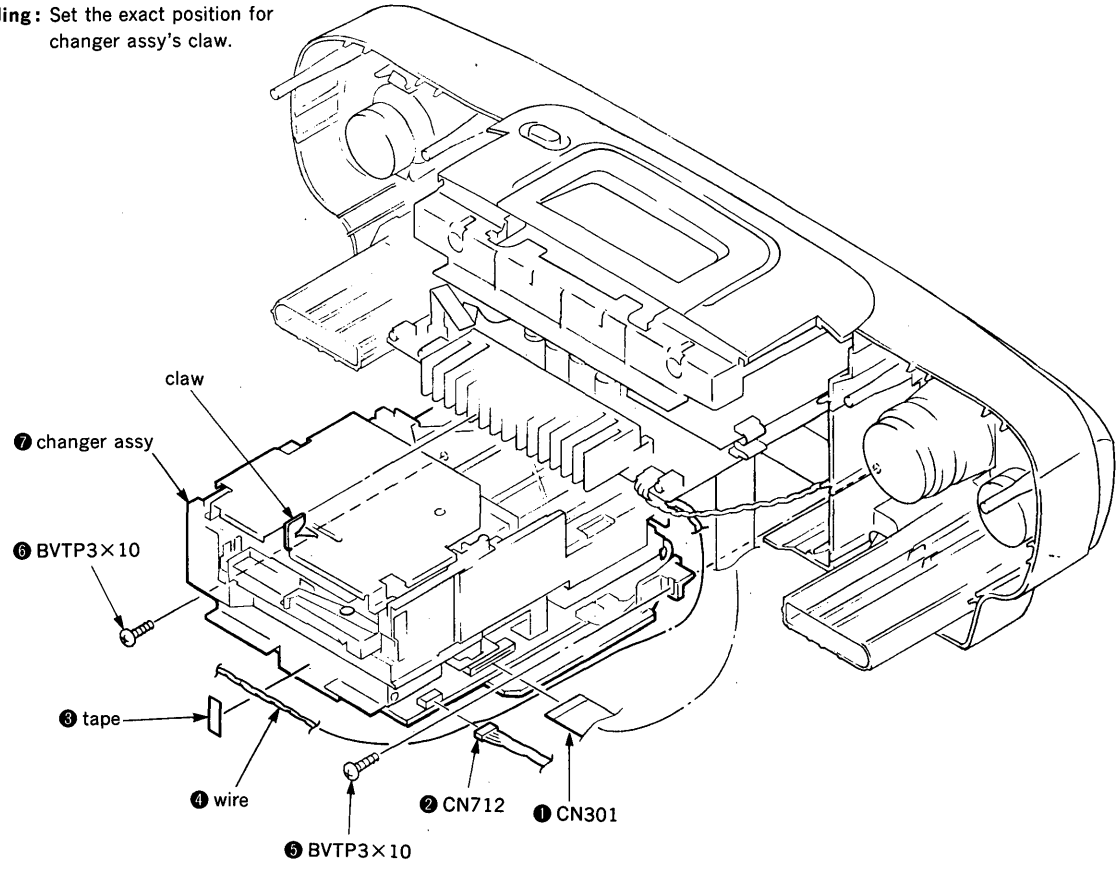


2-4. POWER BOARD

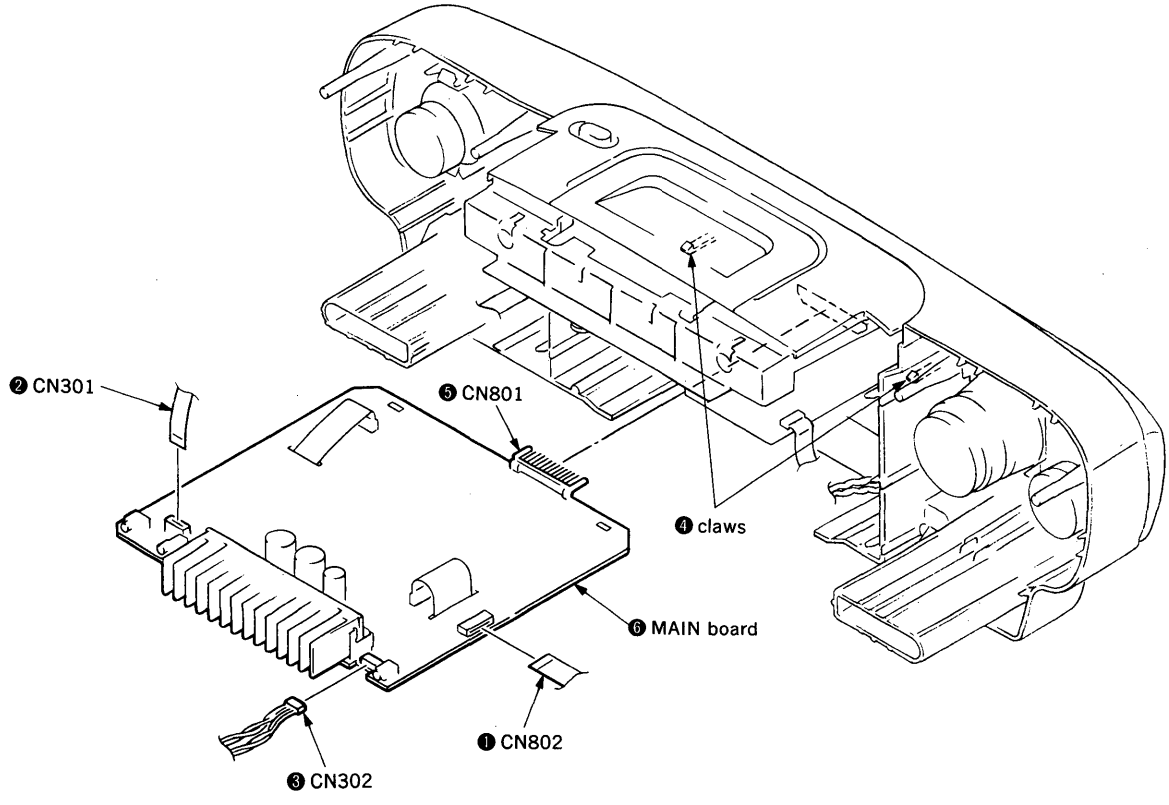


2-5. CHANGER ASSY

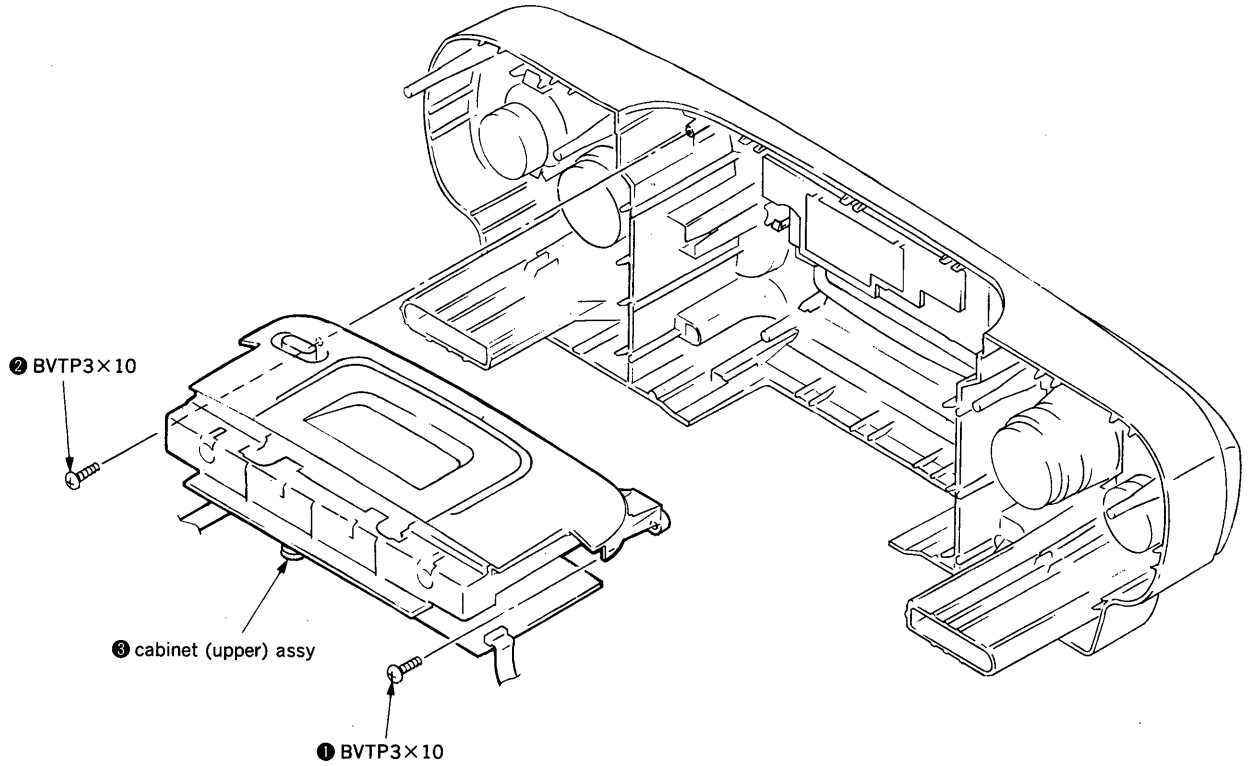
Note on installing: Set the exact position for changer assy's claw.



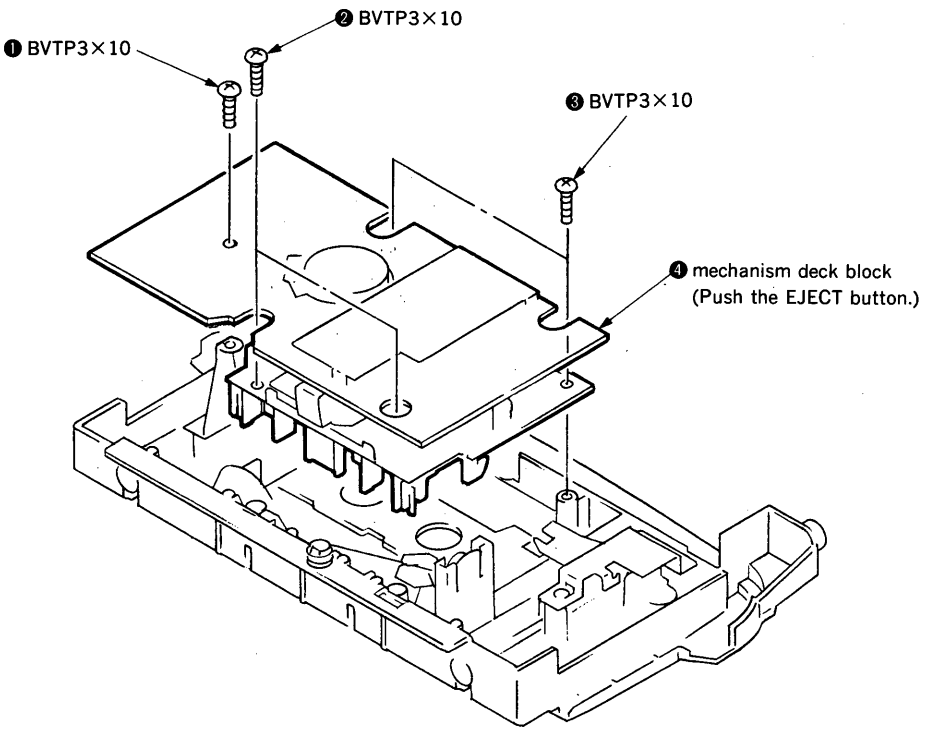
2-6. MAIN BOARD



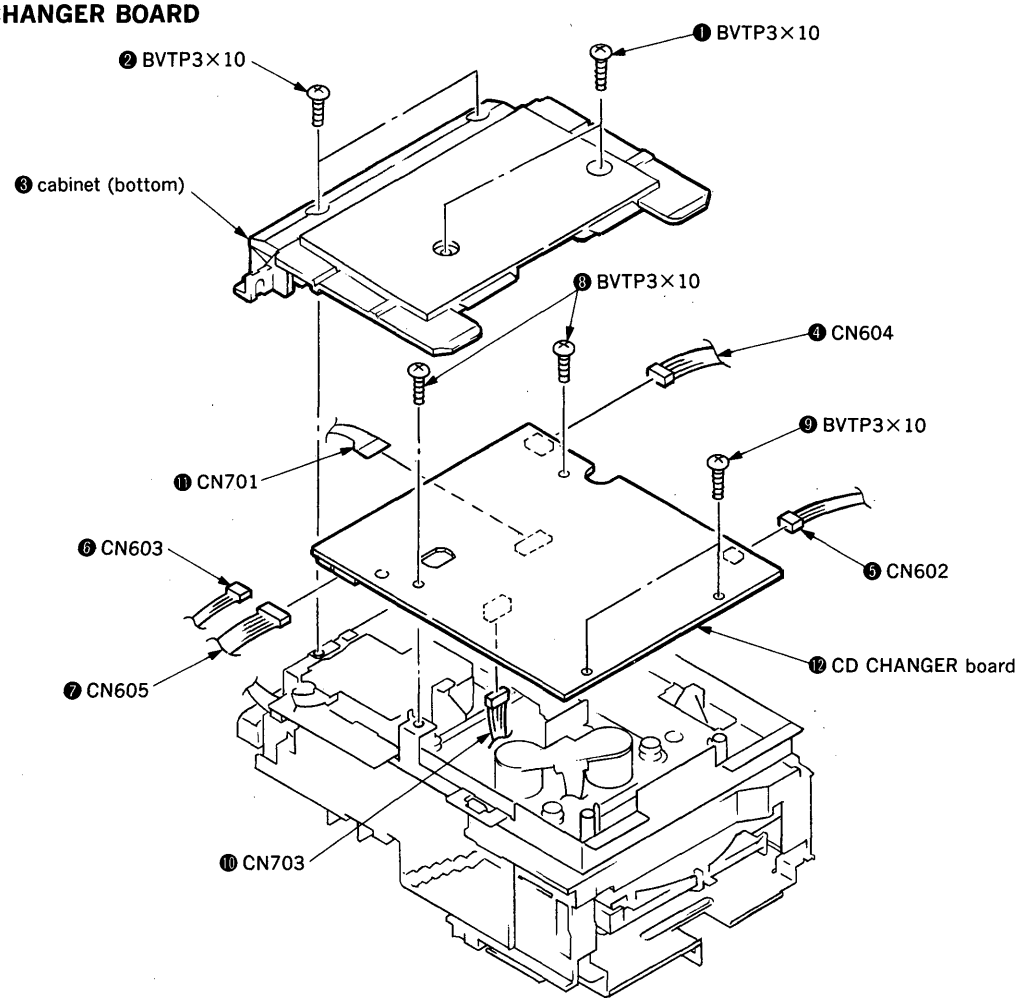
2-7. CABINET (UPPER) ASSY



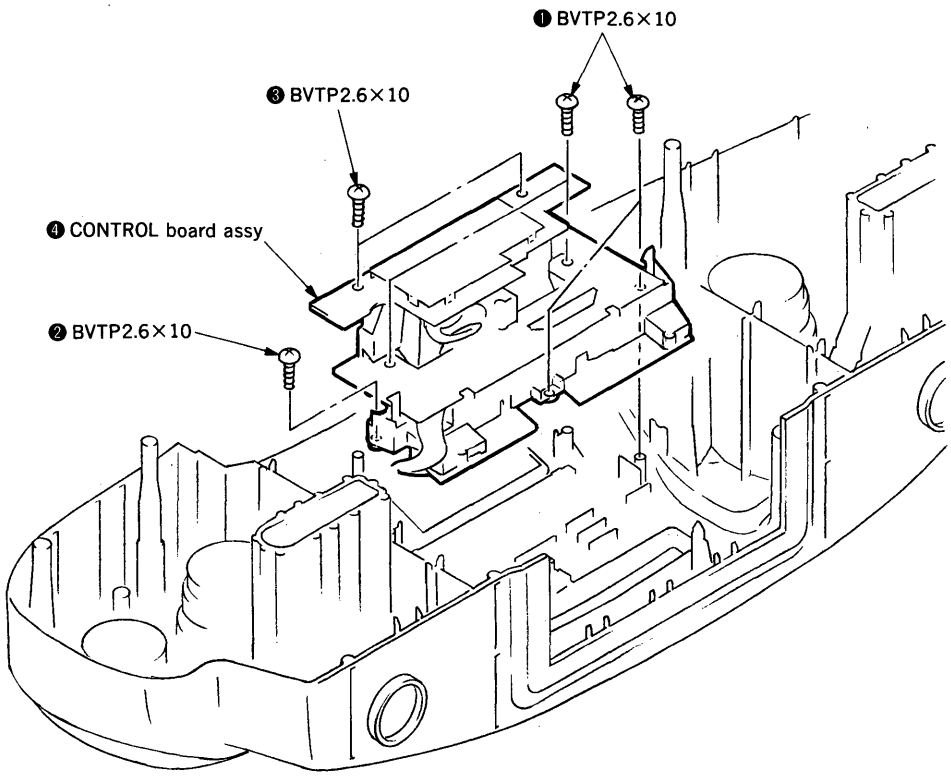
2-8. MECHANISM DECK BLOCK



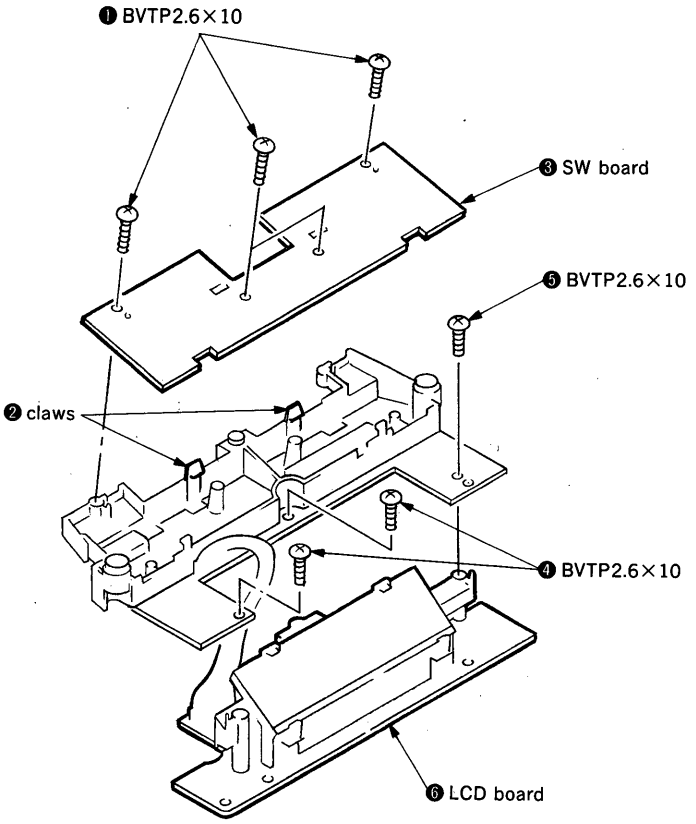
2-9. CD CHANGER BOARD



2-10. CONTROL BOARD ASSY



2-11. LCD BOARD



SECTION 3
TEST MODE

• For setting of the test mode, one of three test modes: Tape, Display and CD is set by inputting the appropriate key from the set.

• Set the Test Mode

1. With POWER OFF, press the VOLUME + key, ◀◀ (TAPE) key and HIGH SPEED DUBBING START key in this turn to display on the LCD.
2. With this display appearing on the LCD, press the appropriate key of the following:
   Press the DISC SELECT 1 key to set the Tape test mode.
   Press the DISC SELECT 2 key to set the Display test mode.
   Press the DISC SELECT 3 key to set the CD test mode.

• Release the Test Mode

The test mode is released by turning POWER OFF or by changing the function from one to another mode. The other keys will operate normally when a test mode is set.
(Note that the special keys specified for each test mode are excluded.)

3-1. TAPE TEST MODE

The key available in the tape test mode are:

a) □, ◁, ▷, ◀◀, ▶▶
   The other keys not associated with POWER and function mode change will operate normally when the test mode is set.

b) Press one of the following keys in the stopped state and in the normal speed FWD/REV playback mode:
   Press the ▶▶ key to set high speed FWD playback mode.
   Press the ◀◀ key to set high speed REV playback mode.

c) Press one of the following keys in the high speed FWD/REV playback mode:
   Press the ▶▶ key to set normal speed FWD playback mode.
   Press the ◀◀ key to set normal speed REV playback mode.

3-2. DISPLAY TEST MODE

The LCD indicators will be all put on just test mode is entered. Then, the LCD indicators will be all put on in the following pattern each time the ▶▶| /+ (TUNING) key is pushed. (Roll display)

1) All ON ←
   ↓
2) COM0 all ON
   ↓
3) COM1 all ON
   ↓
4) COM2 all ON
   ↓
5) COM3 all ON ——┘

3-3. CD TEST MODE

Description of test in CD test mode

		Description of test*			
		STOP	F-ON	T-ON	T-G-UP
Operation of available key	▷ ▯▯ (PLAY) key	F-ON	T-ON	T-G-UP	T-ON
	▶▶| (FF), |◀◀ (REW) key	FF,REW	F-ON FF,REW	F-ON FF,REW	F-ON FF,REW
	□(STOP) key	STOP			

* : Detailed description of test

STOP	LD-ON, ALL OFF
F-ON	LD-ON, Focus ON, Tracking OFF, CLV-S
T-ON	LD-ON, Focus ON, Tracking ON, CLV-A
T-G-UP	LD-ON, Focus ON, Tracking Gain UP, CLV-A

Note: Any key will not be accepted when loading operation is made and during Focus Search Up.
When starting, the set will operate assuming that the CD tray is closed. So, when the tray is open, push the OPEN/CLOSE key to close the CD tray.
When the CD tray is open, the LCD indicators will be all put on. When the tray is closed, they will have roll display (stop if in LD-ON mode).

SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playbcak/erase head　　pinch rollers
   idlers　　rubber belts
   capstan
2. Demagnetize the record/playback/erase head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the order given in this service manual.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	22.5—50g•cm (0.31—0.69oz•inch)
Forward back tension	CQ-102C	1.5—5g•cm (0.021—0.069oz•inch)
Reverse	CQ-102RC	22.5—50g•cm (0.31—0.69oz•inch)
Reverse back tension	CQ-102RC	1.5—5g•cm (0.021—0.069oz•inch)
Fast Forward	CQ-201B	※ 140—180g•cm (1.94—2.50oz•inch)

※ Before the fast forward torque measurement, the record/playback/erase head is turn to forward mode.

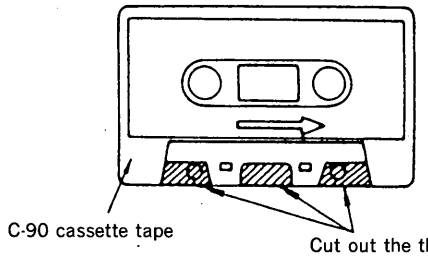
Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 100g (more than 3.53 oz)
Reverse	CQ-403R	

Head Height Adjustment

Procedure:

1. If one does not have a mirror cassette CQ-009C (8-909-708-01), cut out the three portions of a 90-minute cassette tape shell as indicated below and use that cassette tape.

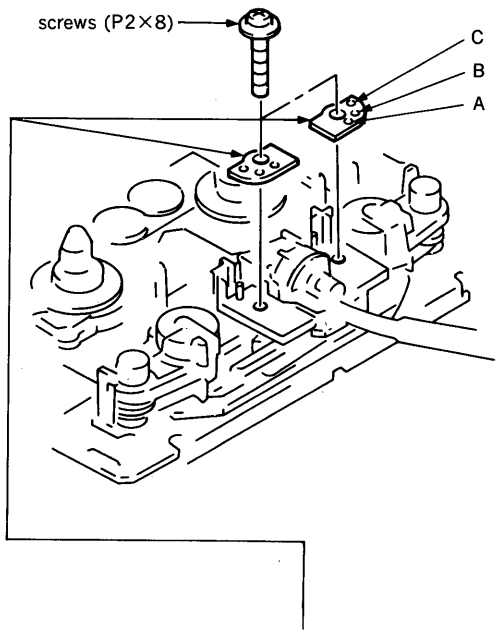


C-90 cassette tape　　Cut out the three portions.

2. Set to the FWD playback mode. Loosen the FWD tape guide fixing screw and adjust with inserting the head height adjustment shim to eliminate tape curl and tape twist in the portions of tape guide and head.
3. Set to the REV playback mode. Loosen the REV tape guide fixing screw and adjust with inserting the head height adjustment shim to eliminate tape curl and tape twist in the portions of tape guide and head.
4. After the adjustments, apply suitable locking compound to the screws (P2×8).

Note: Make the assembly do not touch the NR slider for head height adjustment shims.

Adjustment Location:



Head height adjustment shims

Part No.	t	Holes
3-384-356-01	0.30±0.02	without
3-384-356-11	0.35±0.02	A
3-384-356-21	0.40±0.02	B
3-384-356-31	0.45±0.02	C
3-384-356-41	0.50±0.02	without

SECTION 5
ELECTRICAL ADJUSTMENTS

5-1. DECK SECTION 0dB=0.775V

PRECAUTION

1. The adjustments should be performed in the order given in this service manual. As a rule, adjustments about playback should be performed before those about recording.
2. The adjustments should be performed before for both L-CH and R-CH.
3. Switch modes
   Function mode ·····TAPE
   VOLUME +/− keys·····standard output level position
   DOLBY NR (remote commander) key ·····OFF
4. Standard record position
   Use the VOLUME +/− keys to adjust so that the following standard input/output levels.

Standard Input Level

Input terminal	MIX MIC IN	LINE IN	REC IN
Signal source impedance	300Ω	10kΩ	600Ω
Input signal level	2.45mV (−50dB)	0.44V (−5dB)	18.0mV (−32.7dB)

Standard Output Level

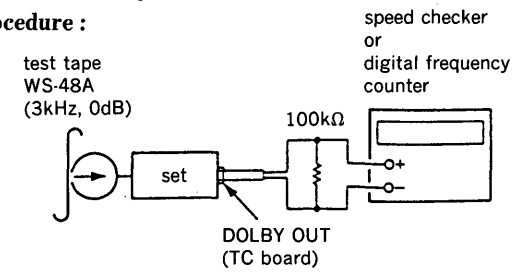
Output terminal	SP OUT (L, R)	H. P OUT	DOLBY OUT	LINE OUT
Load impedance	4Ω	32Ω	100kΩ or more	100kΩ or more
Output signal level	0.775V (0dB)	0.10V (−18dB)	0.18V (−12.7dB)	0.19V (−12dB)

Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment
P-4-L300	315Hz, 0dB	playback level, record/playback/erase head azimuth and phase adjustments
P-4-A063	6.3kHz, −10dB	record/playback/erase head azimuth and phase adjustments
P-4-A100	10kHz, −10dB	record/playback/erase head azimuth and phase adjustment
CS-123	——	record bias, record level adjustments

Tape Speed Adjustment

Procedure :



1. After entering test mode (see page 20.), press the ▷ or ◁ key to set normal speed playback.
2. Adjust RV603 so that the reading on the digital frequency counter is within the adjustment value below.

Adjustment Value : normal speed

Speed checker	Digital frequency counter
0.33 to 1%	3,010 to 3,030Hz

   Frequency difference between REV side should be within ±1% (30Hz).
3. After entering test mode (see page 20.), press the ▶▶ or ◀◀ key to set high speed playback.
4. Adjust RV604 so that the reading on the digital frequency counter is within the adjustment value below.

Adjustment Value : high speed

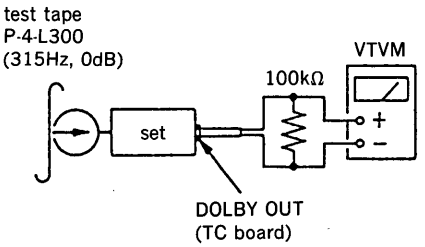
Speed checker	Digital frequency counter
0.33 to 1%	6,020 to 6,060Hz

   Frequency difference between REV side should be within ±1% (60Hz).
5. If the adjustment value are not satisfied, repeat steps 1 to 4.
6. After the adjustment, be sure to release test mode. (See page 20.)

Adjustment Location : See page 24.

Playback Level Adjustment

Procedure :



1. Set to the FWD playback mode and adjust RV102 (L-CH) and RV202 (R-CH) so that the reading on the VTVM is within the adjustment value below.

Adjustment Value :

DOLBY OUT level : 0.19 to 0.17V (−12.2 to −13.2dB)
Level difference between channels : within 0.3dB

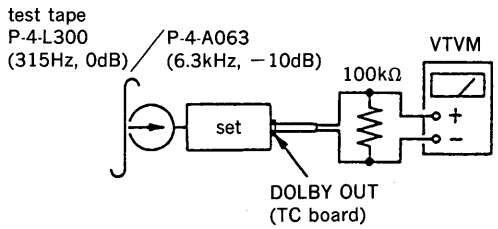
Confirm that the DOLBY OUT level does not change even if playback or stop operation is repeated several times.

2. Set to the REV playback mode and confirm that the DOLBY OUT level difference between FWD playback mode is within 0.5dB.

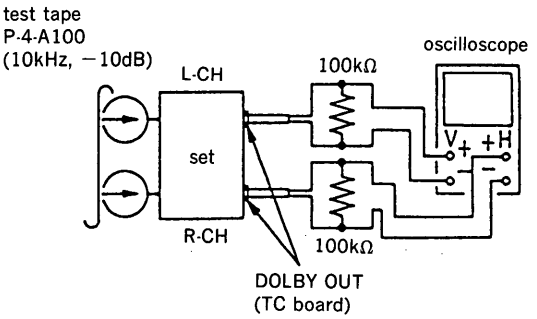
Adjustment Location : See page 24.

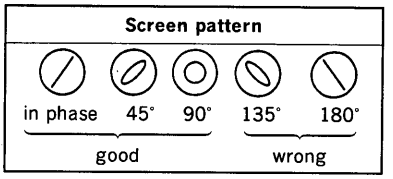
Record/Playback/Erase Head Azimuth and Phase Adjustments

Procedure :



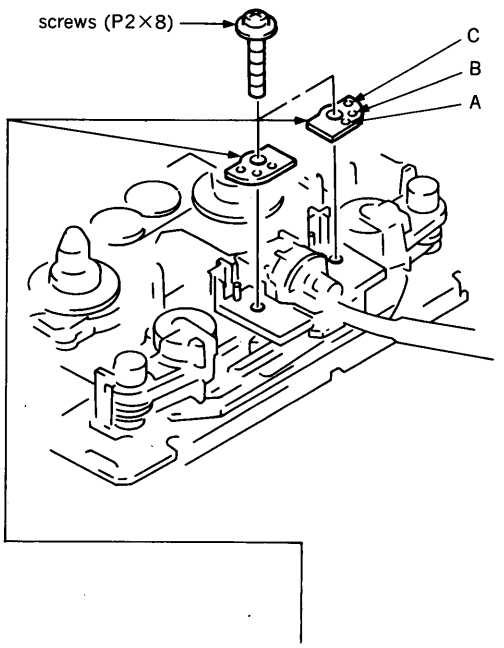
1. Set to the FWD playback mode with P-4-L300 and reading on VTVM.
2. Press the ◁(REV) key and confirm that the reading on the VTVM is within ±0.6dB relative to the P-4-L300 playback level.
3. Set to the FWD (REV) playback mode with P-4-L300 and reading on VTVM.
4. Set to the FWD (REV) playback mode with P-4-A063 and confirm that the reading on the VTVM is within −1± 1dB relative to the P-4-L300 playback level.
5. If the confirmation value are not satisfied, replace the adjustment shims and repeat the steps 2 to 4.





6. Set to the FWD (REV) playback mode and confirm that the screen pattern.
7. After the adjustments, apply suitable locking compound to the screws (P2×8).

Adjustment Location :



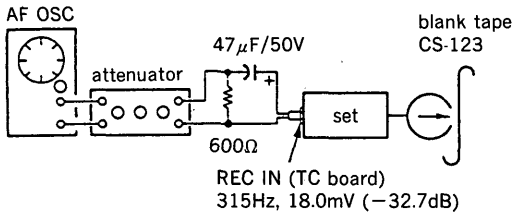
Head height adjustment shims

Part No.	t	Holes
3-384-356-01	0.30±0.02	without
3-384-356-11	0.35±0.02	A
3-384-356-21	0.40±0.02	B
3-384-356-31	0.45±0.02	C
3-384-356-41	0.50±0.02	without

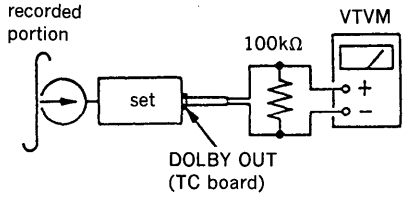
Record Level Adjustment

Procedure :

1. Mode : record



2. Mode : FWD playback



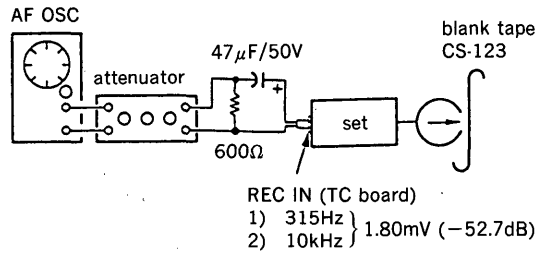
3. Confirm that the DOLBY OUT level difference at record and playback is within 0±0.5dB relative to the DOLBY OUT level at 315Hz with −32.7dB inputs from REC IN. If the confirmation value are not satisfied, adjust RV103 (L-CH) and RV203 (R-CH) and repeat the steps 1 and 2.
4. Confirm that the REV playback mode is within confirmation value.

Adjustment Location : TC board

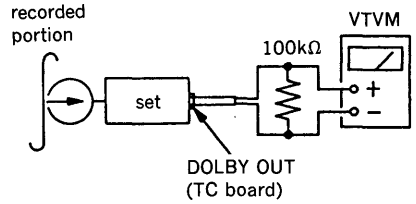
Record Bias Adjustment

Procedure :

1. Mode : record



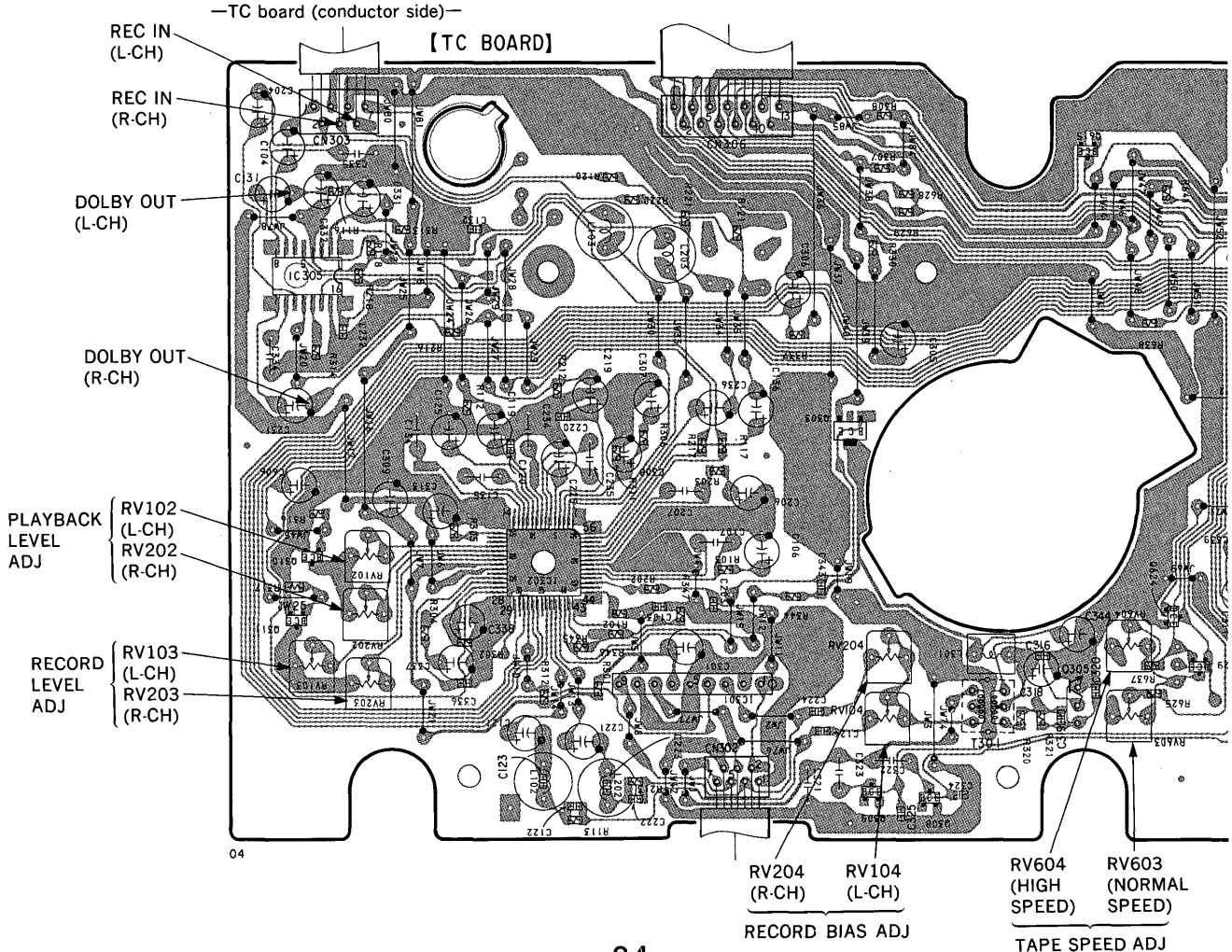
2. Mode : FWD playback



3. Confirm that the DOLBY OUT level difference between 315Hz with −52.7dB and 10kHz with −52.7dB is within 0±1dB.
   If the confirmation value are not satisfied, adjust RV104 (L-CH) and RV204 (R-CH) and repeat the steps 1 and 2.
4. Confirm that the REV playback mode is within confirmation value.

Adjustment Location : TC board

Deck Section Adjustment Location :

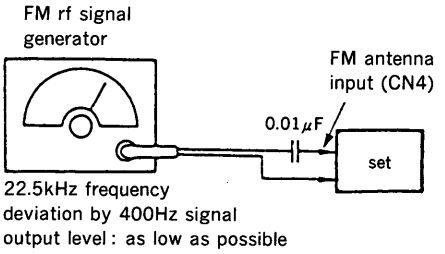


5-2. TUNER SECTION 0dB=1μV

• FM Section

Setting :

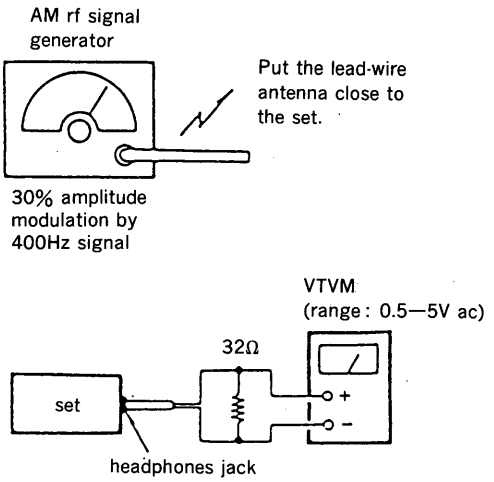
BAND switch : FM


FM rf signal generator
FM antenna input (CN4)
0.01μF
set
22.5kHz frequency deviation by 400Hz signal output level : as low as possible

• MW/LW Section

Setting :

BAND switch : MW or LW



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT		
Frequency indication	87.5MHz	108.0MHz
Reading on digital voltmeter	0.75±0.3V	5.0±1.0V
Adjustment element	(confirmation)	(confirmation)

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
87.5MHz	108.0MHz

MW FREQUENCY COVERAGE ADJUSTMENT		
Frequency indication	531kHz	1,611kHz
Reading on digital voltmeter	0.9±0.1V	5.7±0.1V
Adjustment element	L4	CT2

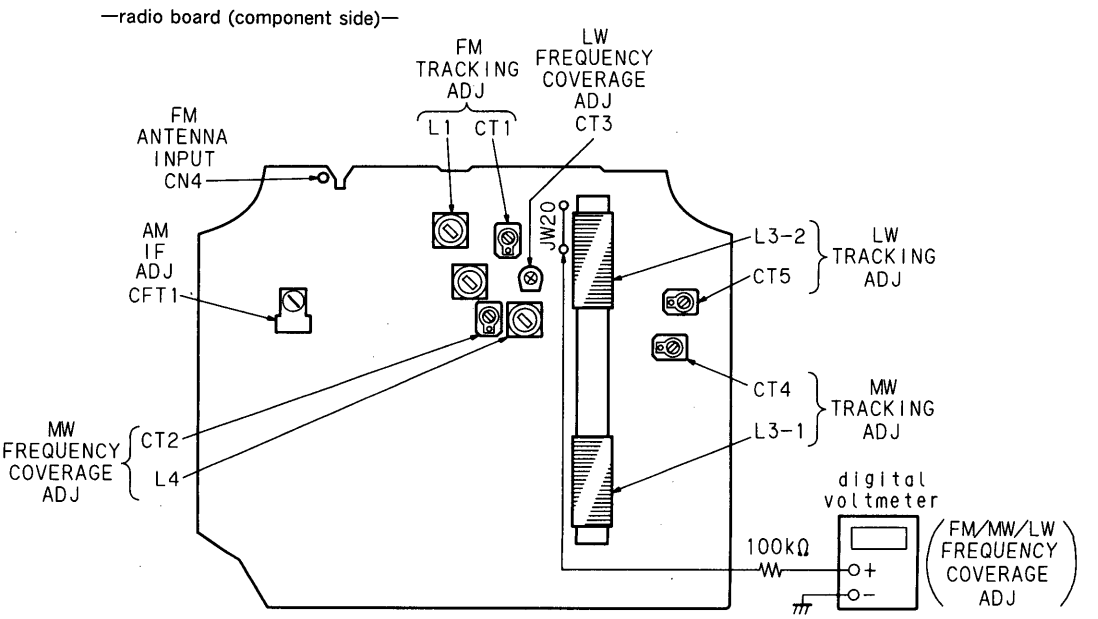
MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3-1	CT4
621kHz	1,404kHz

AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
CFT1
10.7MHz

LW FREQUENCY COVERAGE ADJUSTMENT		
Frequency indication	153kHz	279kHz
Reading on digital voltmeter	0.6±0.1V	5.6±0.2V
Adjustment element	CT3	(confirmation)

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3-2	CT5
162kHz	261kHz

Tuner Section Adjustment Location :



5-3. CD SECTION

Notes on Adjustment

1. Perform Traverse adjustment in test mode. (See page 20.) After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.
4. Function mode·····CD

Before Adjustment

Put the set into test mode (see page 20.) and perform the following checks. Repair if there are any problems.

• Sled Motor Check

Press the ▶▶| or |◀◀ key and confirm that the optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.

▶▶|: optical pick-up moves to the outer circumference
|◀◀ : optical pick-up moves to the inner circumference

• Focus Search Check

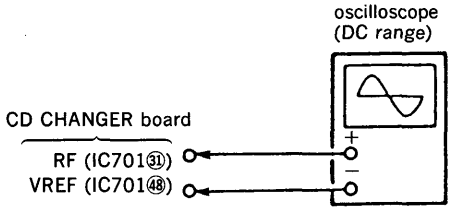
1. Push the ▷ ▯▯ key. (Focus search operation is performed continuously.)
2. Look at the optical pick-up objective lens and confirm the it moves up and down smoothly, with no catching or abnormal noises.
3. Push the □ key.
   Confirm that focus search operation stops. If it does not, push the □ key again longer.

Note: If any abnormal condition (runaway, etc.) occurs due to in correct key operation, push OFF the POWER key. Retry from entering test mode.

Focus Bias Adjustment

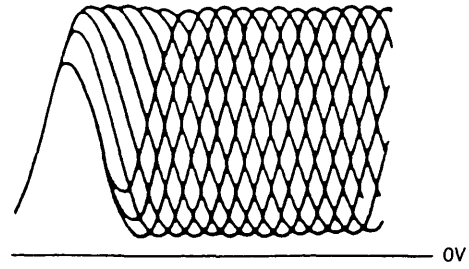
This adjustment is to be done when the optical pick-up block is replaced.

Procedure:



1. Connect the oscilloscope between RF and VREF on the CD CHANGER board.
2. Put the set into test mode. (See page 20.)
3. Insert disc (YEDS-18) and push the ▷ ▯▯ key.
4. Press the ▶▶| or |◀◀ key to move the optical pick-up to the center.
5. Push the ▷ ▯▯ key.
6. Adjust RV701 so that the oscilloscope waveform is maximum as shown in the figure below (eye pattern). This means that lozenges ◇ can be clearly distinguished in the center of the overlapped waveforms.
7. Release the test mode after adjustment is completed. (See page 20.)

• RF signal reference waveform (eye pattern)



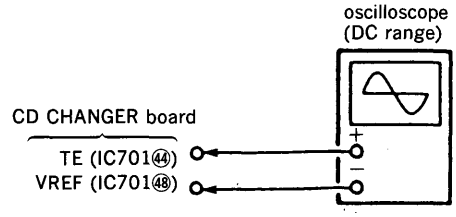
When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location: See page 29.

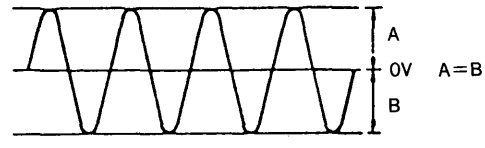
Traverse Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Procedure:



1. Connect the oscilloscope between TE and VREF on the CD CHANGER board.
2. Put the set into test mode. (See page 20.)
3. Insert disc (YEDS-18) and push the ▷ ▯▯ key.
   Focus search starts and then focus is set ON and CLV is withdrawn. Tracking and sled are OFF.
4. Press the ▶▶| or |◀◀ key to move the optical pick-up to the center.
5. Adjust RV703 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release the test mode after adjustment is completed. (See page 20.)



Adjustment Location: See page 29.

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

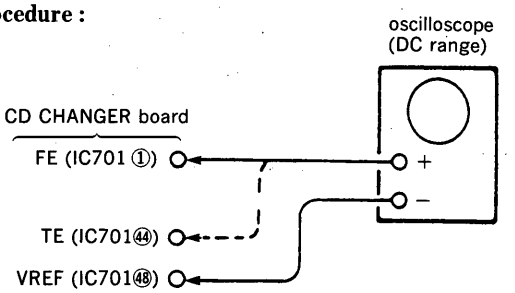
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for □ → ▷ ▯▯ on automatic selection. (⏮ , ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for □ → ▷ ▯▯ or automatic selection. (⏮, ⏭ buttons pressed.)	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

—Simple Adjustment—

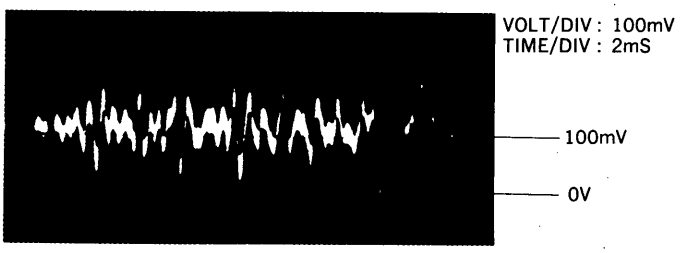
Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure :



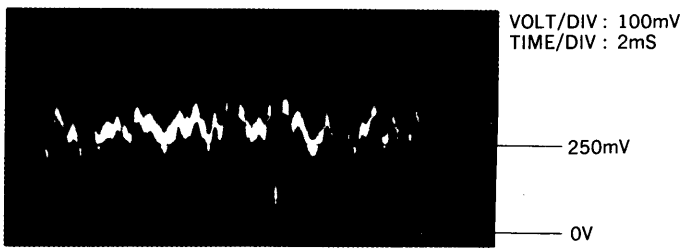
1. Keep the set horizontal.
   If the set not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
2. Insert disc (YEDS-18) and push the ▷ ▯▯ key.
3. Connect the oscilloscope between FE and VREF on the CD CHANGER board.
4. Adjust RV702 so that the waveform is as shown in the figure below. (focus gain adjustment)

- Correct Example



- Incorrect Examples (DC level changes more than on adjusted waveform)

low focus gain



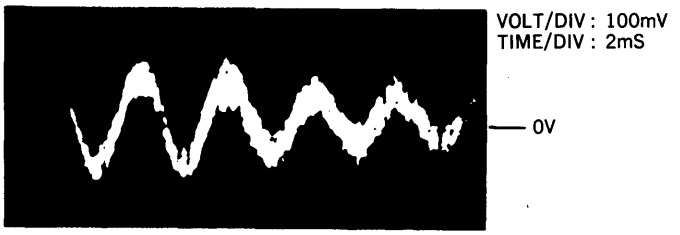
high focus gain

5. Connect the oscilloscope between TE and VREF on the CD CHANGER board.
6. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)

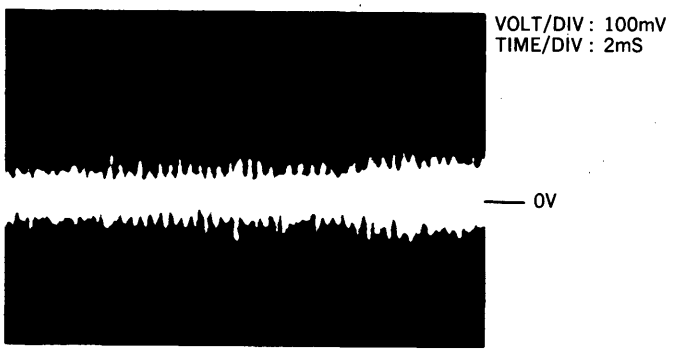
● Correct Example

● Incorrect Examples (fundamental wave appears)

low tracking gain



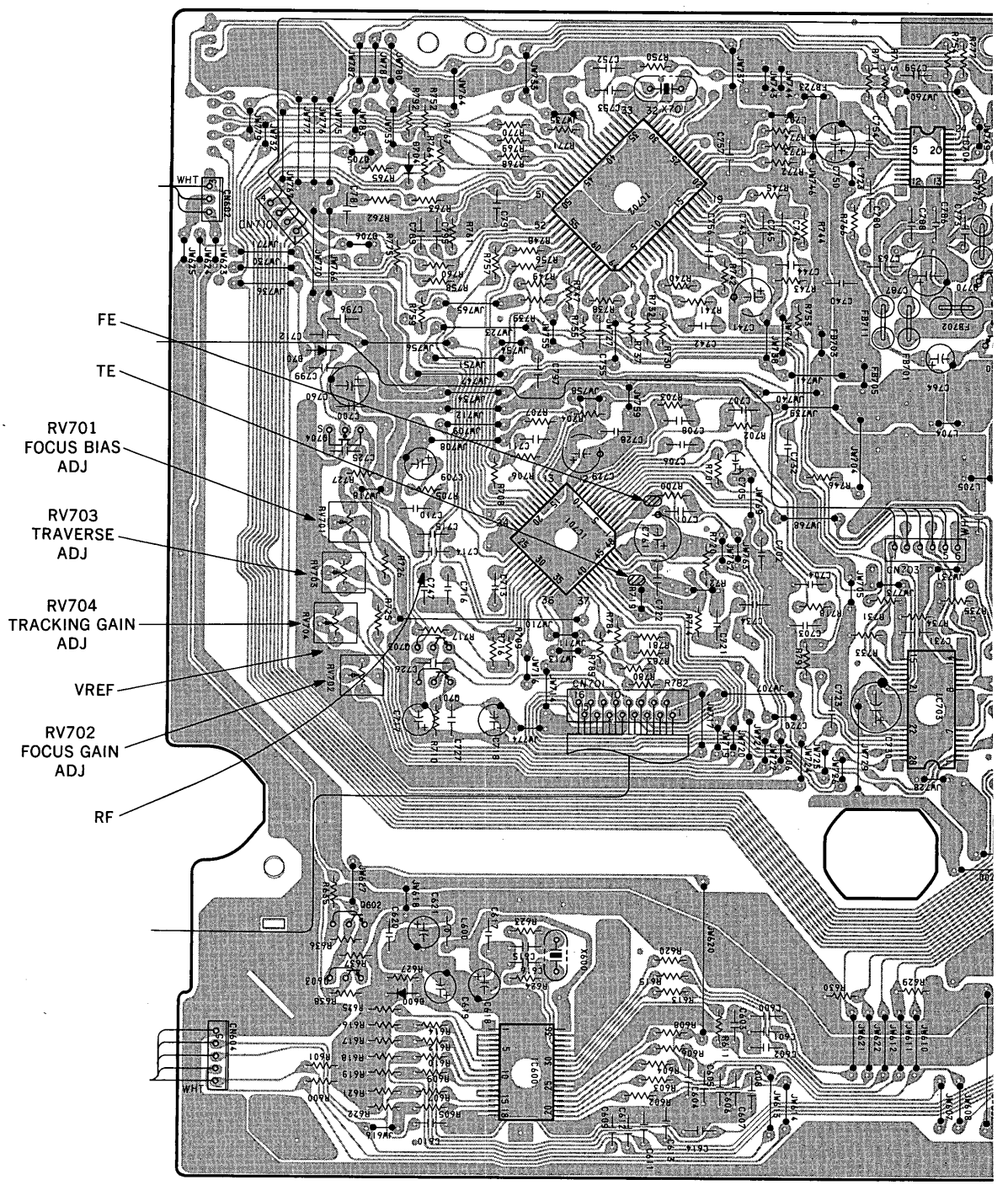
high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location : See page 29.

CD Section Adjustment Location :

—CD changer board (conductor side)—



SECTION 6
DIAGRAMS

6-1. PIN DESCRIPTION

• Changer Control M34225M2 (IC600)

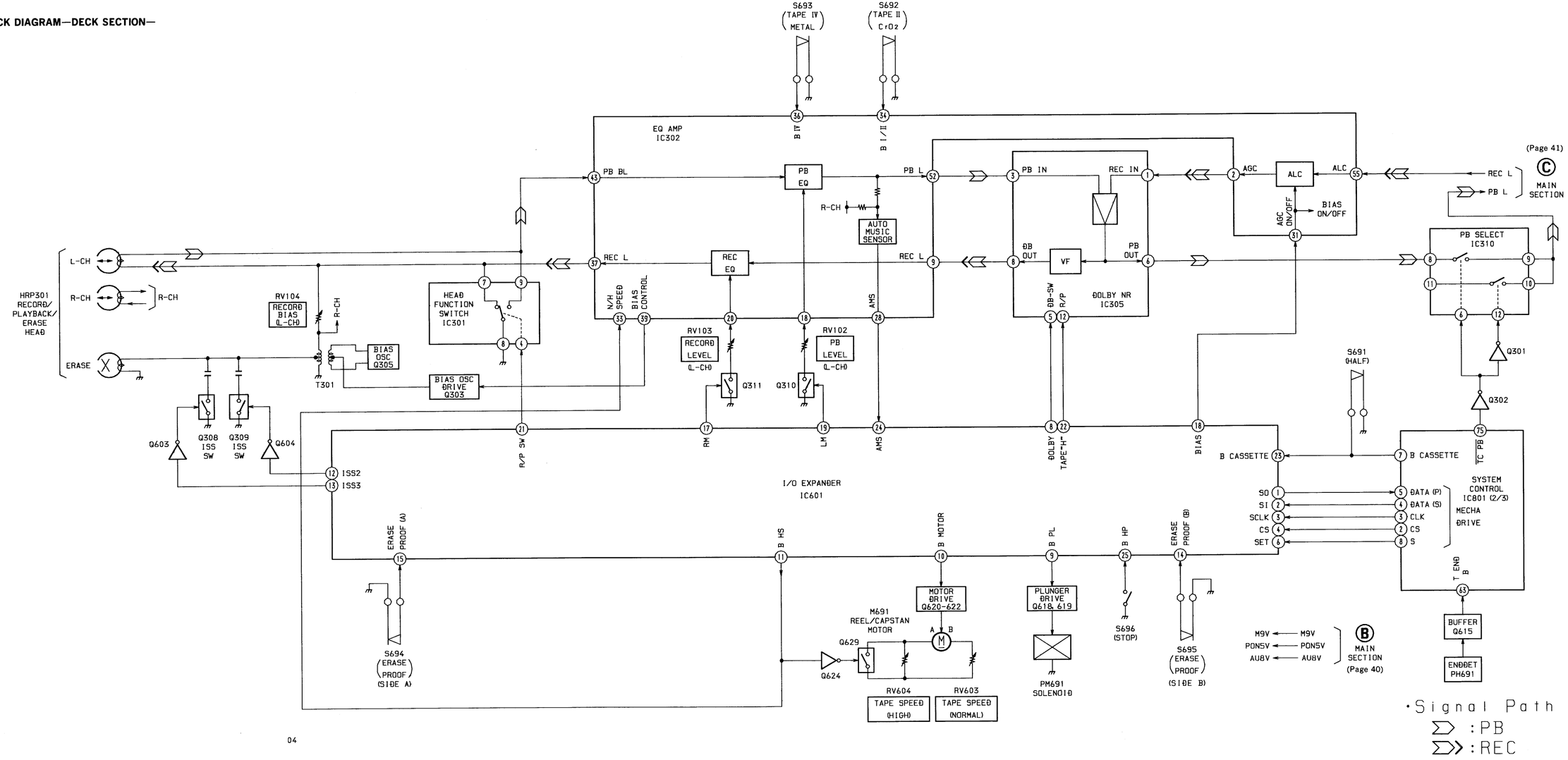
Pin No.	Pin Name	I/O	Function
1	RST	I	Changer system reset pin
2	CH-RST	—	Connect to digital GND.
3	AGND	—	Analog GND
4	AVREF	—	Connect to analog GND.
5, 6	KEY1, 2	—	Connect to analog GND.
7	AVDD	—	Analog power supply pin (+5V).
8	—	—	Connect to analog GND.
9	LM1	O	LOAD/UNLOAD-MOTOR drive pin "LL" for no load, "LH" for rotation and "HH" for brake.
10	LM2	O	
11	UDM2	O	CH-HOLDER's UP/DOWN-MOTOR drive pin "LL" for no load, "LH" for rotation and "HH" for brake.
12	UDM1	O	
13, 14	—	—	Connect to digital GND.
15	M1	I	MODE1-SW (for position detection at LOAD/UNLOAD) input pin.
16	M2	I	MODE2-SW (for position detection at LOAD/UNLOAD) input pin.
17, 18	DGND	—	Digital GND
19	M3	I	MODE3-SW (for position detection at OPEN/CLOSE) input pin.
20	CHUCKING	I	CHUCKING detect pin (at UP/DOWN of CH-HOLDER).
21	M. STOCK	I	Pin to detect the stage where disc is CHUCKING (at UP/DOWN of CH-HOLDER).
22	F. P/I	I	Stage detect pin (at UP/DOWN of CH-HOLDER).
23	D. P/R	I	Pin used to detect the presence of disc at CHUCKING. "H" when no disc and "L" when disc is present.
24	DISC-ERR	—	Connect to digital GND.
25, 26	—	—	Connect to digital GND.
27	CH-CE	O	CHIP-ENABLE pin "H" for disallowing another communication due to communication processing and "L" for being ready for communication.
28	CH-CLK	I	SERIAL communication clock pin When communication, "H" and "H/L" (one 8-bit communication per 36nS).
29	CH-DI	I	SERIAL input (8-bit) of the command from SYSTEM μCOM.
30	CH-DO	O	SERIAL output (8-bit) of the status of changer.
31, 32	—	—	Connect to digital GND.
33	XOUT	O	Oscillator output pin (500kHz)
34	XIN	I	Oscillator input pin (500kHz)
35	—	—	No connection
36	VDD	—	Power supply pin (+5V).

• **System Control CXP84332-013Q (IC801)**

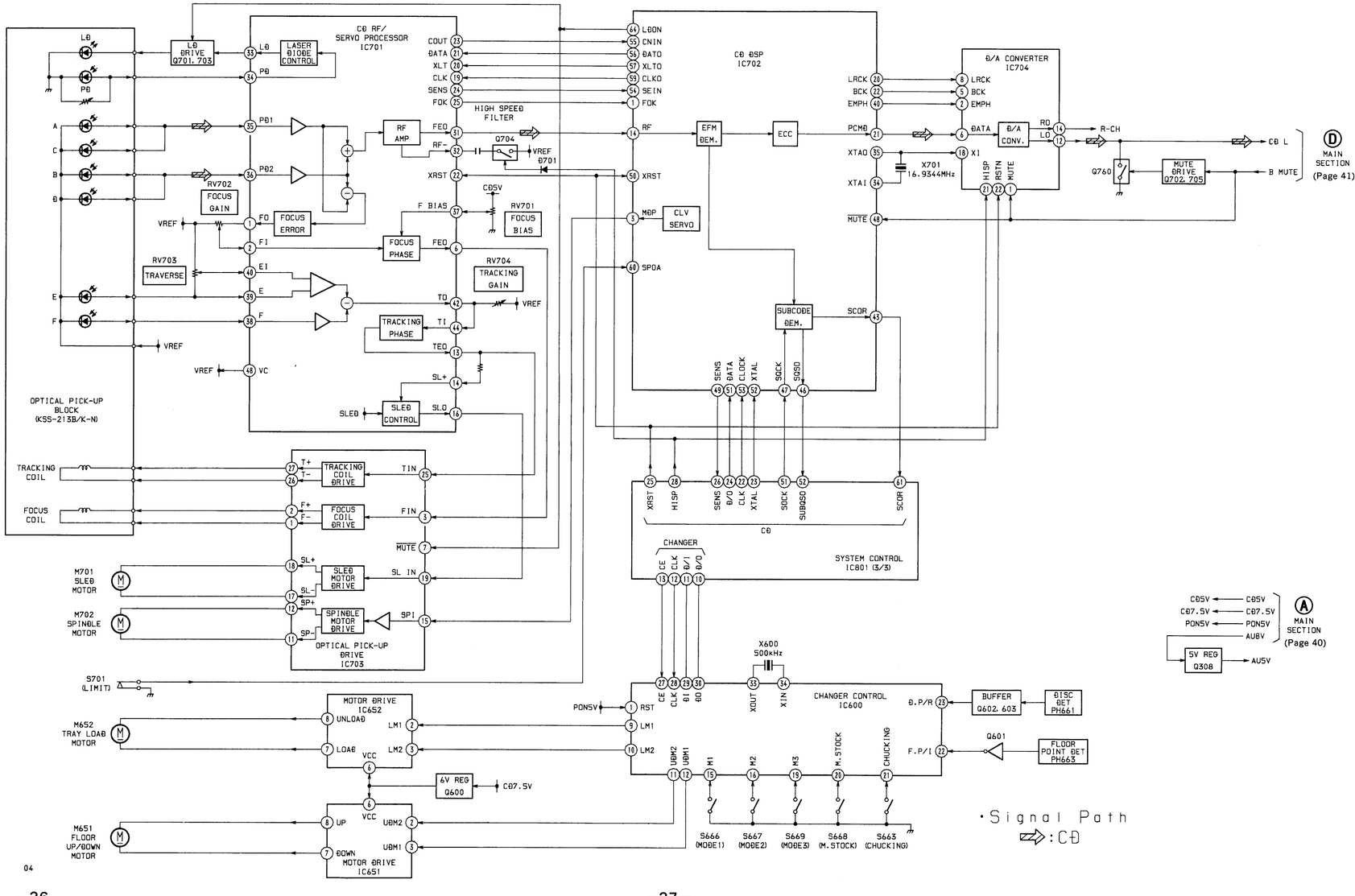
Pin No.	Pin Name	I/O	Function
1	NC	O	Not used.
2	MD-CS	O	MD serial communication chip select output pin
3	M-CLK	O	MD serial communication serial clock output pin
4	MD DATA (S)	O	MD serial communication serial data output pin
5	MD DATA (P)	I	MD serial communication serial data input pin
6	A-CASSET	I	Deck A cassette detect pin
7	B-CASSET	I	Deck B cassette detect pin
8	MD S	O	MD I/O expander set signal output pin
9	CH-FL-P/I	O	Not used.
10	CH-D/O	O	Changer serial data output pin
11	CH-D/I	I	Changer serial data input pin
12	CH-CLK	O	Changer serial clock output pin
13	CH-CE	I	Changer chip enable input pin
14	NC	O	Not used.
15	DISC3 LED	O	DISC3 LED output pin
16	DISC2 LED	O	DISC2 LED output pin
17	DISC1 LED	O	DISC1 LED output pin
18	OPE LED	O	Not used.
19	STANDBY LED	O	Not used
20	POWER CONT	O	Set power control output pin
21	B/L-CONT	O	Backlight ON/OFF control output pin
22	CD-CLK	O	CD DSP serial clock output pin
23	CD-XLAT	O	CD DSP serial clock latch output pin
24	CD-D/O	O	CD DSP serial data output pin
25	CD-XRST	O	CD DSP and SSPDAC reset output pin
26	CD-SENSE	I	CD DSP SENSE input pin
27	B-MUTE	O	Block mute output pin
28	HI-SPEED	O	High speed control (CD & DECK)
29	SHIFT CLK	O	Main clock shift signal output pin
30	RESET	I	Reset input pin
31	EXTAL	I	4.19MHz oscillator input pin
32	XTAL	O	4.19MHz oscillator output pin
33	VSS	—	Microcomputer reference GND
34	TX	O	32.768MHz oscillator output pin
35	TEX	I	32.768MHz oscillator input pin
36	AVSS	—	A/D GND
37	AVREF	—	A/D reference voltage
38	PAMP-CONT	O	Power Amp ON/OFF output pin
39	AU MUTE	O	Audio system MUTE output pin
40	AU CLK	O	Audio system serial clock output pin
41	AU DATA	O	Audio system serial data output pin
42	AU CE	O	Audio latch output pin
43	KEY 3	I	Key input pin
44	KEY 2	I	Key input pin
45	KEY 1	I	Key input pin

Pin No.	Pin Name	I/O	Function
46	LCD C/D	O	Output to change between LCD command and data.
47	LCD CS	O	LCD chip select output pin
48	LCD CLK	O	LCD serial clock output pin
49	NC	O	Not used.
50	LCD DATA	O	LCD serial data output pin
51	SQCK	O	CD SUBQ read clock output pin
52	SUBQ SO	I	CD SUBQ data input pin
53	ECHO ON/OFF	O	Echo ON/OFF control output pin
54	NC	I	Not used.
55	R-ST	I	Radio stereo distinction signal input pin
56	RMC	I	Remote commander signal input pin
57	NC	I	Not used.
58	MIC VOL	O	MIC electronic volume control output pin
59	BEEP	O	Buzzer output pin
60	AC-CHK	I	Pin used to check the presence of AC power supply.
61	SCOR	I	CD's SCOR signal input pin
62	T-ENDA	I	Deck A rotation and shut-off detect pin.
63	T-ENDB	I	Deck B rotation and shut-off detect pin.
64	R-CE	O	Radio chip enable output pin
65	R-DATA	O	Radio serial data output pin
66	R-CLK	O	Radio serial clock output pin
67	R-COUNT	I	Radio count data input pin
68	CD-L	O	Function change signal output pin 〈CD〉 .
69	TAPE-L	O	Function change signal output pin 〈TAPE〉 .
70	RADIO-L	O	Function change signal output pin 〈RADIO〉 .
71	MPX	O	KARAOKE MPX control signal output pin
72	VDD	—	Power supply pin (+5V).
73	NC/VPP	—	
74	(AE/J)	I	Destination setting pin
75	$\overline{\text{TC PB}}$	O	L signal output during TAPE PLAY.
76	PON	O	KARAOKE PON ON/OFF signal output pin
77	NC	O	Not used.
78	NC	O	Not used.
79	NC	O	Not used.
80	NC	O	Not used.

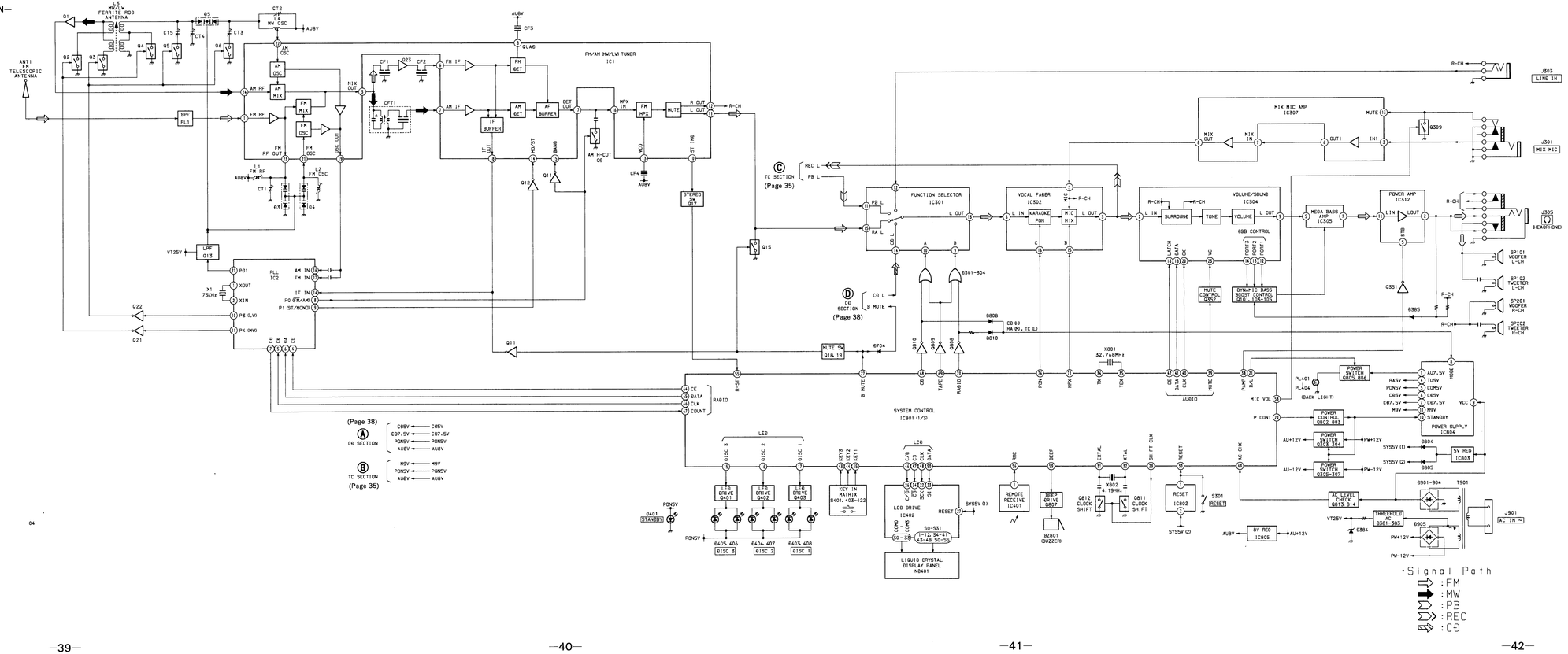
6-2. BLOCK DIAGRAM—DECK SECTION—



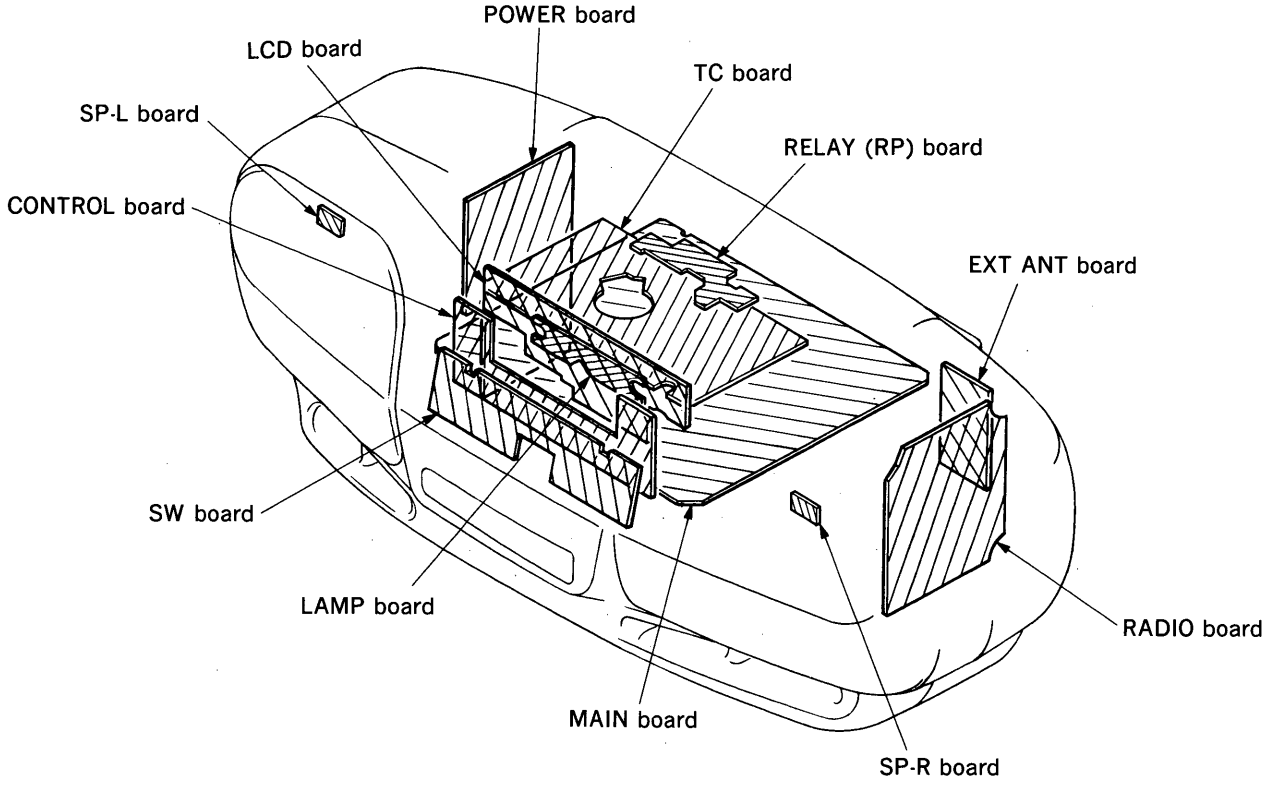
6-3. BLOCK DIAGRAM—CD SECTION—

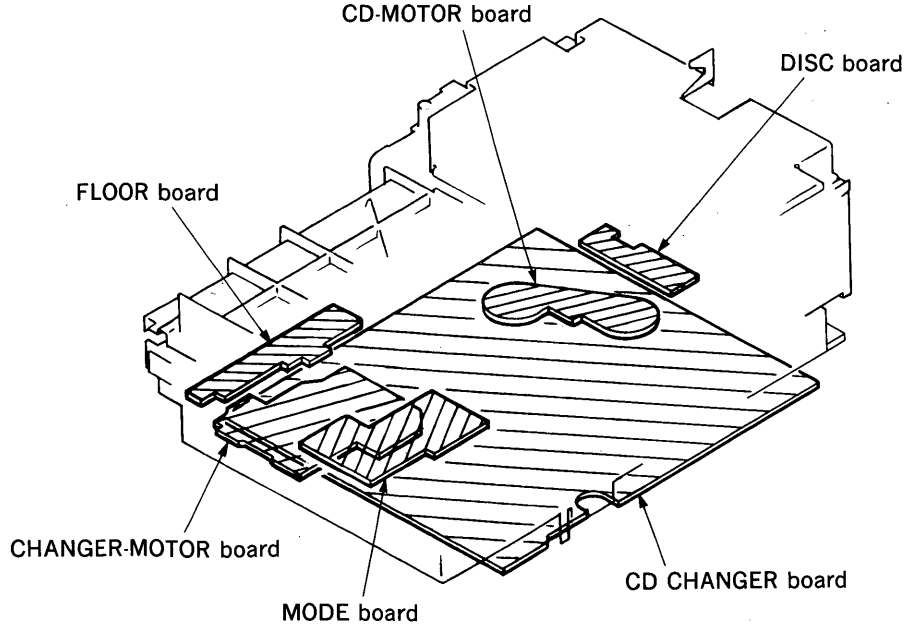


6-4. BLOCK DIAGRAM—MAIN SECTION—



6-5. CIRCUIT BOARDS LOCATION



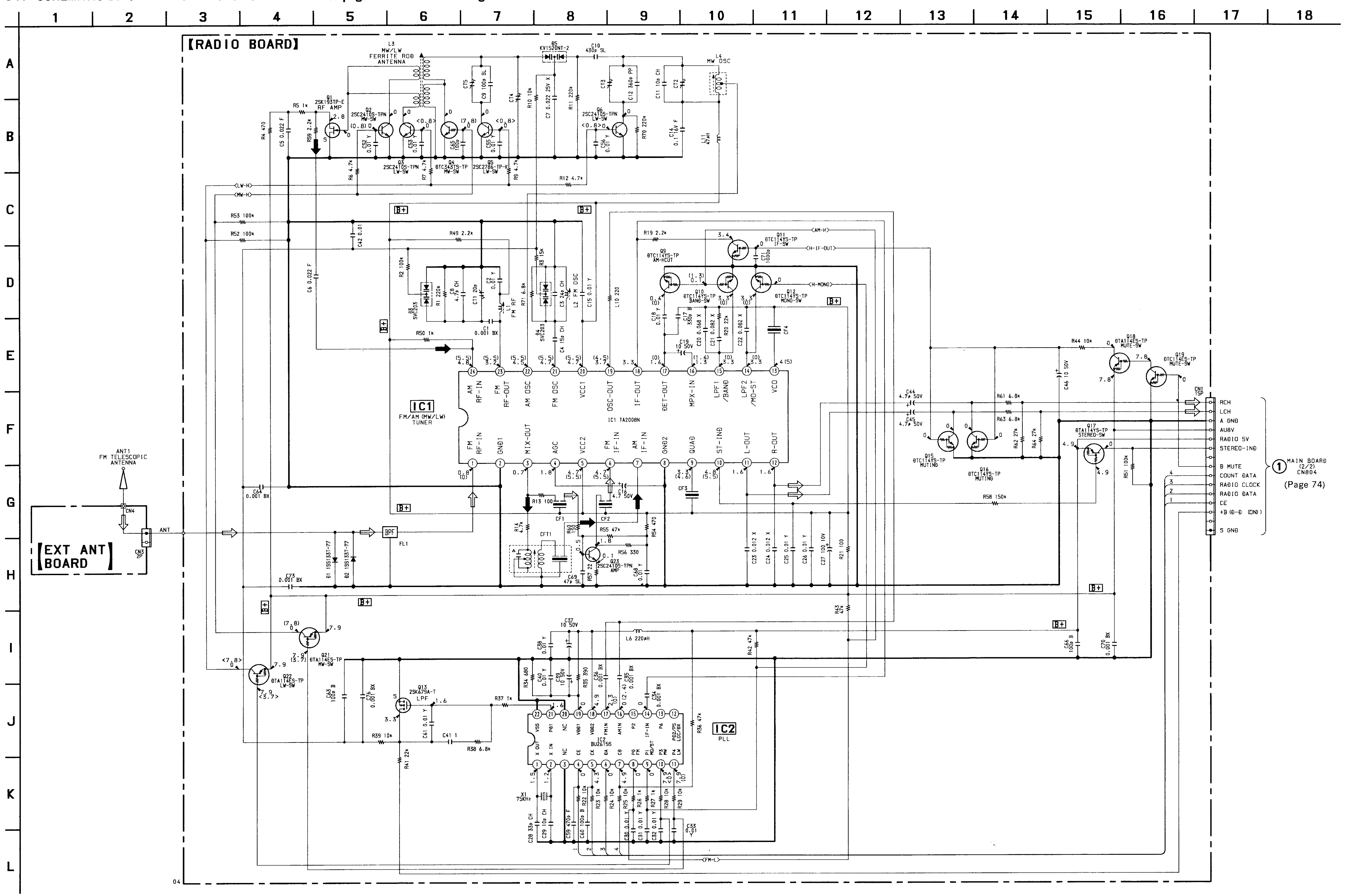


• **Semiconductor Location**

Ref. No.	Location
D1	A-5
D2	A-4
D3	B-4
D4	B-4
D5	B-3
IC1	B-5
IC2	D-5
Q1	B-3
Q2	C-3
Q3	C-2
Q4	C-3
Q5	C-2
Q6	B-3
Q9	C-3
Q10	C-3
Q11	D-4
Q12	C-4
Q13	D-6
Q15	D-3
Q16	D-3
Q17	D-4
Q18	D-3
Q19	D-2
Q21	D-3
Q22	C-2
Q23	B-5

Note :
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

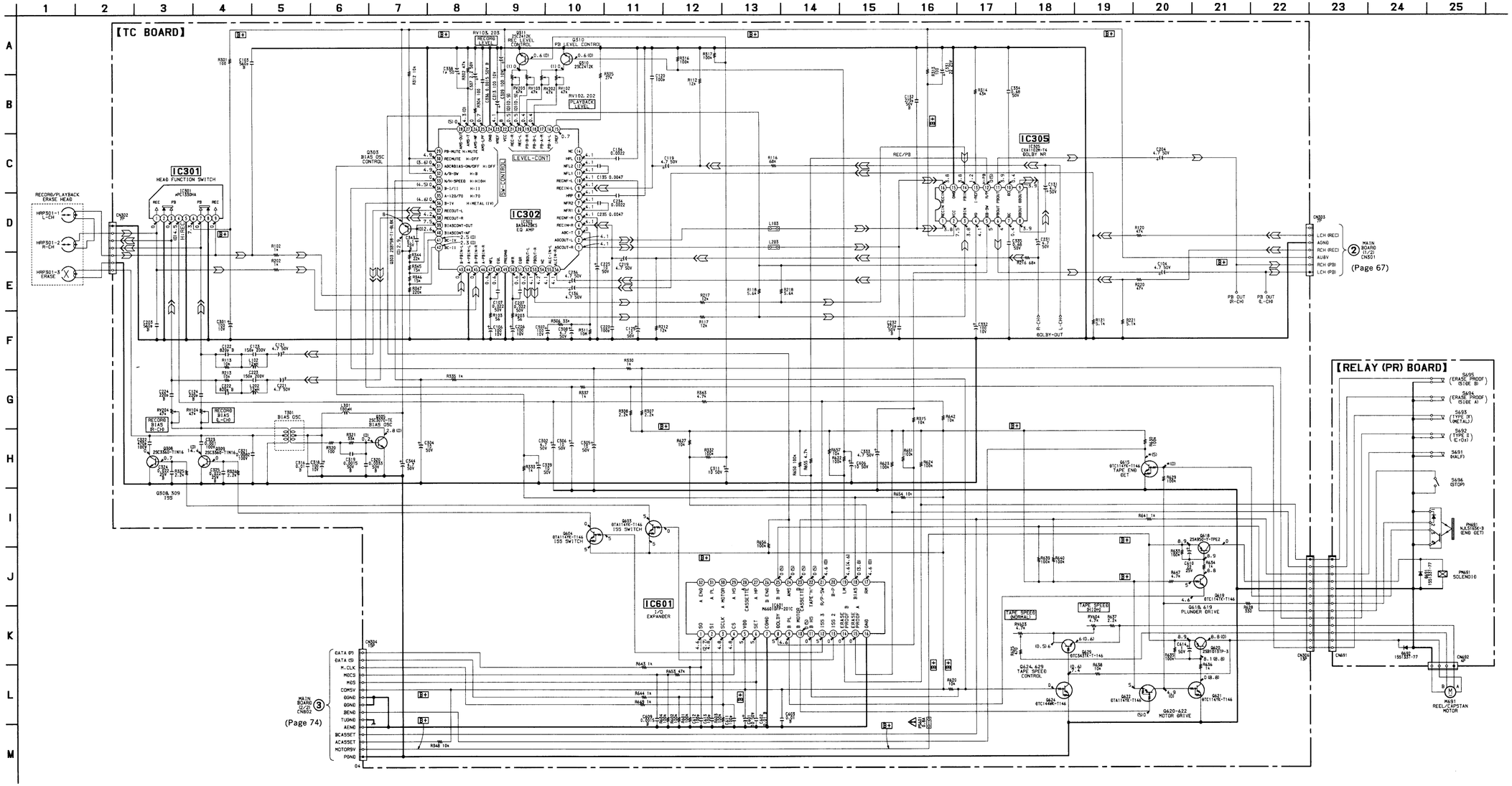
6-7. SCHEMATIC DIAGRAM—TUNER SECTION— • Refer to page 77 for IC Block Diagrams.



Note :

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
  ( ): MW
  < >: LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : MW

6-8. SCHEMATIC DIAGRAM—DECK SECTION— • Refer to page 77 for IC Block Diagrams.



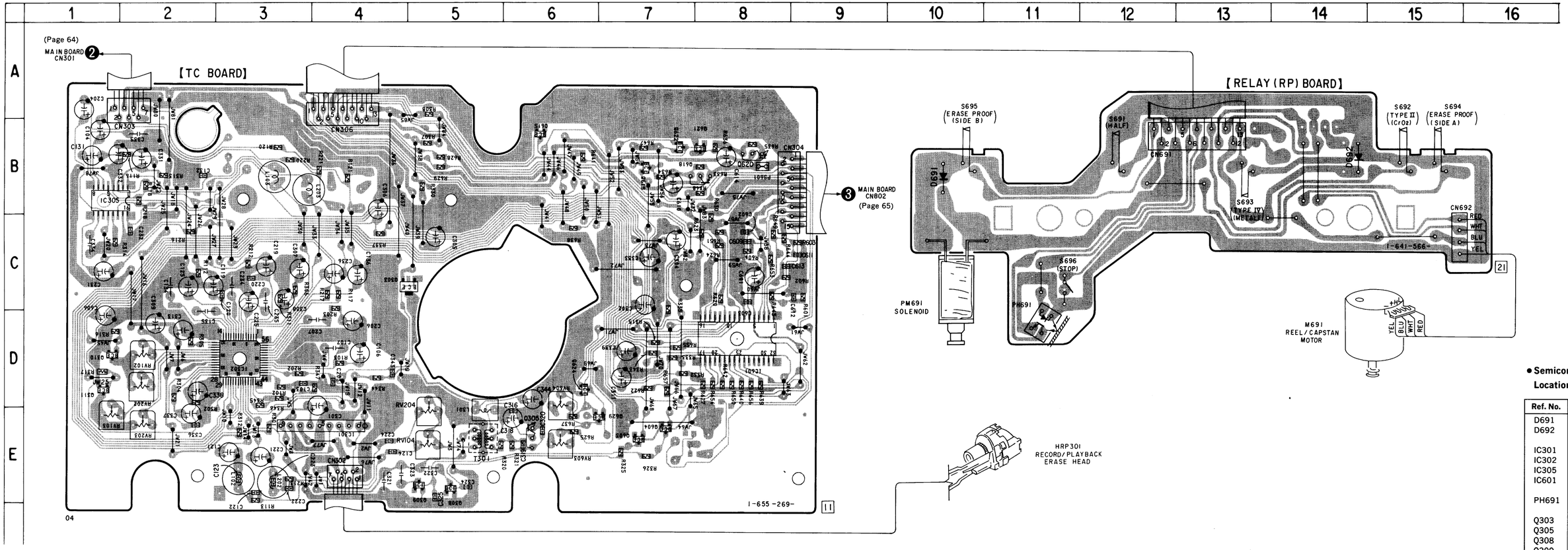
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line
- ▭ : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: PB
  ( ): REC
  ✳ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : PB
  ▷▷ : REC

6-9. PRINTED WIRING BOARDS—DECK SECTION—



• **Semiconductor Location**

Ref. No.	Location
D691	B-10
D692	B-14
IC301	E-4
IC302	D-3
IC305	B-1
IC601	D-8
PH691	D-11
Q303	C-4
Q305	E-6
Q308	E-5
Q309	E-5
Q310	D-1
Q311	D-1
Q603	E-7
Q604	E-7
Q615	B-6
Q618	B-7
Q619	B-7
Q620	B-8
Q621	B-8
Q622	B-7
Q624	D-6
Q629	E-7

Note :

• ○— : parts extracted from the component side.

• ▨ : Pattern on the side which is seen.

6-10. PRINTED WIRING BOARDS—CD SECTION—

• Semiconductor Location

Ref. No.	Location
D600	G-9
D601	G-13
D701	C-8
D704	B-9
IC600	H-9
IC651	D-16
IC652	D-16
IC701	D-10
IC702	B-10
IC703	E-12
IC704	B-12
PH661	A-5
PH663	F-16
Q600	G-13
Q601	H-13
Q602	G-8
Q603	G-8
Q701	E-9
Q702	B-13
Q703	E-9
Q704	D-8
Q705	C-13
Q760	C-12
Q770	C-12

【MODE BOARD】

【DISC BOARD】

【CD CHANGER BOARD】

【CD-MOTOR BOARD】

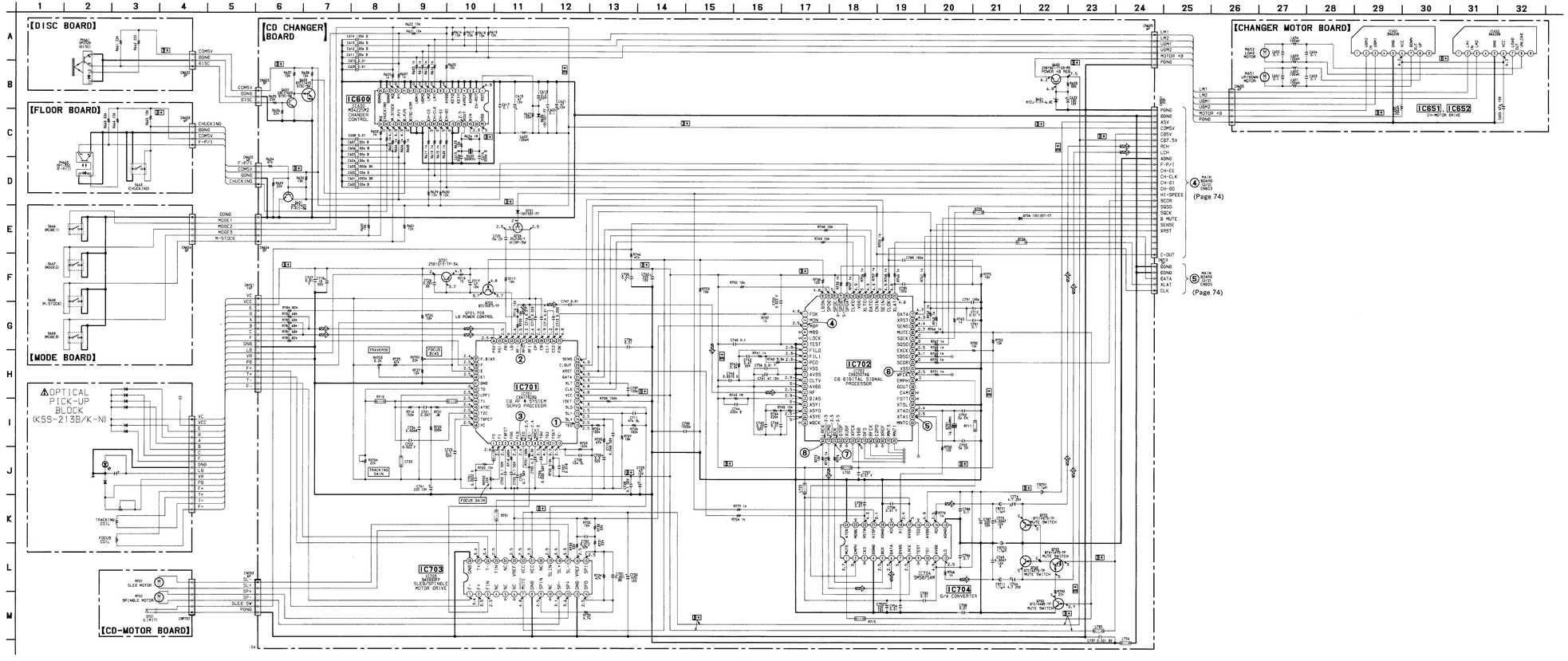
【CHANGER-MOTOR BOARD】

【FLOOR BOARD】

OPTICAL PICK-UP BLOCK (KSS-213B/K-N)

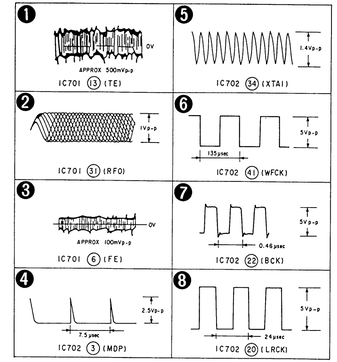
Note :
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

6-11. SCHEMATIC DIAGRAM—CD SECTION— • Refer to page 77 for IC Block Diagrams.



• Waveforms

(MODE : PLAY)



Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark: CD PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path. ⇨ : CD

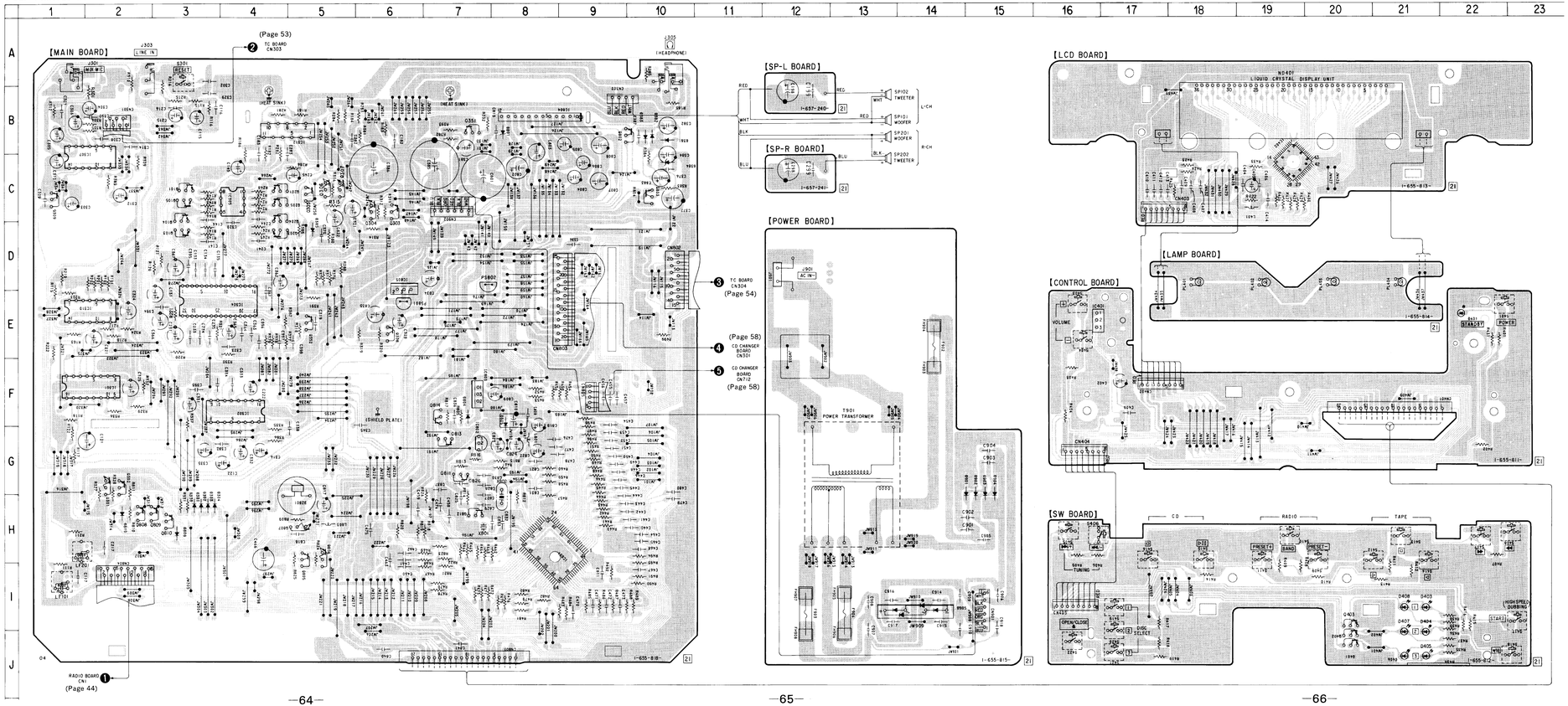
6-12. PRINTED WIRING BOARDS—MAIN SECTION—

● **Semiconductor Location**

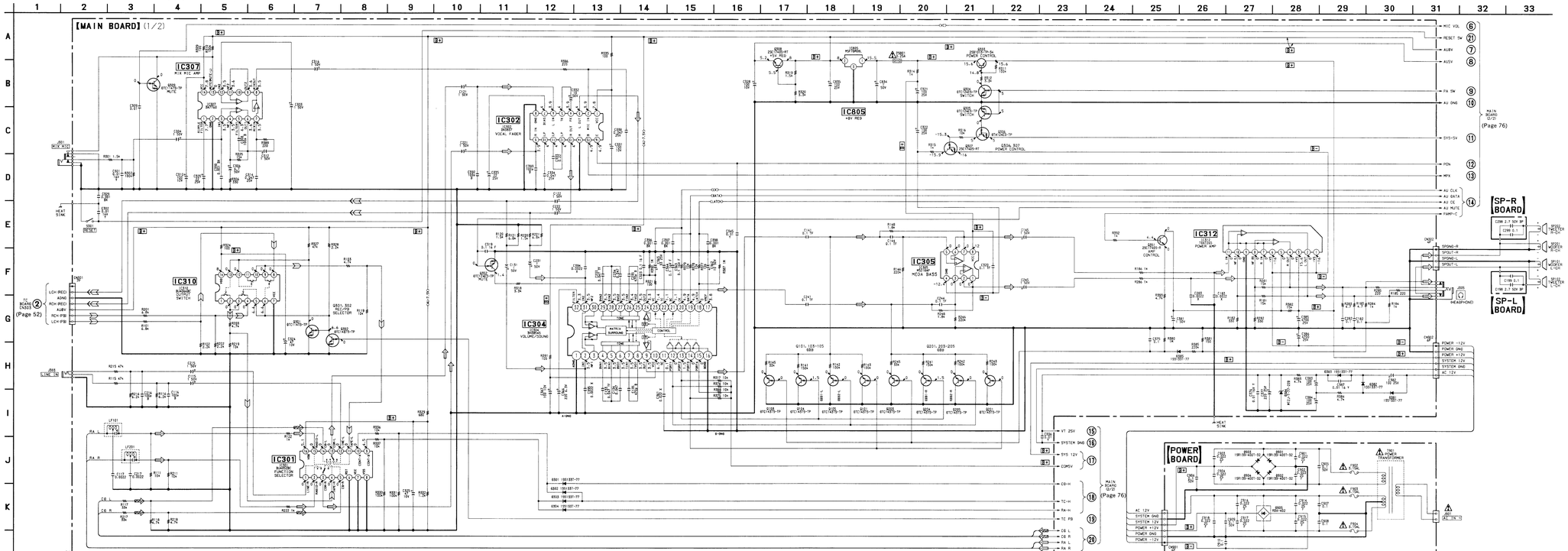
Ref. No.	Location	Ref. No.	Location
D301	H-3	IC803	F-7
D302	H-3	IC804	B-8
D303	H-3	IC805	D-6
D304	H-3		
D381	B-10	Q101	C-3
D382	B-10	Q103	D-3
D383	B-10	Q104	C-3
D384	C-10	Q105	C-3
D385	D-5	Q201	C-4
D401	E-22	Q203	D-4
D403	I-21	Q204	C-4
D404	I-21	Q205	C-4
D405	J-21	Q301	G-2
D406	J-21	Q302	G-2
D407	I-21	Q303	C-6
D408	I-21	Q304	C-6
D801	B-8	Q305	C-5
D804	F-7	Q306	C-5
D805	F-8	Q307	C-5
D808	H-3	Q308	E-6
D810	H-2	Q309	C-1
D901	G-14	Q351	B-7
D902	G-15	Q352	E-5
D903	G-15	Q401	J-20
D904	G-15	Q402	J-20
D905	I-14	Q403	I-20
		Q802	B-9
IC301	F-2	Q803	C-10
IC302	F-4	Q805	H-5
IC304	E-4	Q806	H-5
IC305	C-4	Q807	H-5
IC307	C-2	Q808	H-2
IC310	E-2	Q809	H-3
IC312	B-5	Q810	H-3
IC401	E-16	Q811	G-7
IC402	C-19	Q812	H-7
IC801	H-9	Q813	G-7
IC802	G-7	Q814	F-7

Note :

- ○— : parts extracted from the component side.
- ▭ : Pattern on the side which is seen.



6-13. SCHEMATIC DIAGRAM—MAIN SECTION (1/2)— • Refer to page 77 for IC Block Diagrams.



Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note : The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

- 【B+】 : B+ Line
- 【B−】 : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark : FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ⇨ : PB
  - ⇨ : REC
  - ⇨ : CD

6-14. SCHEMATIC DIAGRAM—MAIN SECTION (2/2)—

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF. 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: FM
  ※ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : CD

[SW BOARD]

[CONTROL BOARD]

[LCD BOARD]

[LAMP BOARD]

[MAIN BOARD] (2/2)

IC401 REMOCON SENSER

IC402 LCD DRIVER

IC801 CXM1511Q-702 SYSTEM CONTROL

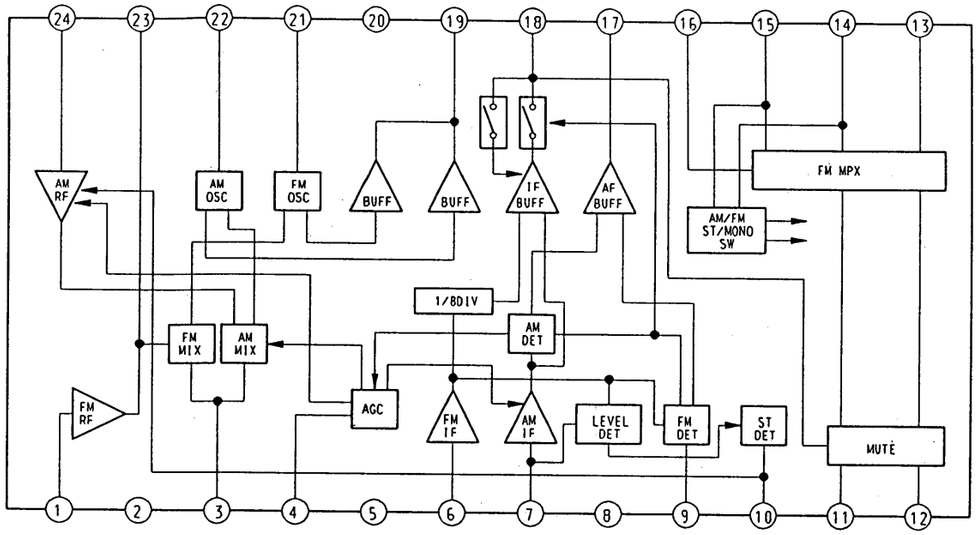
IC802 RESET

IC803 +5V REG

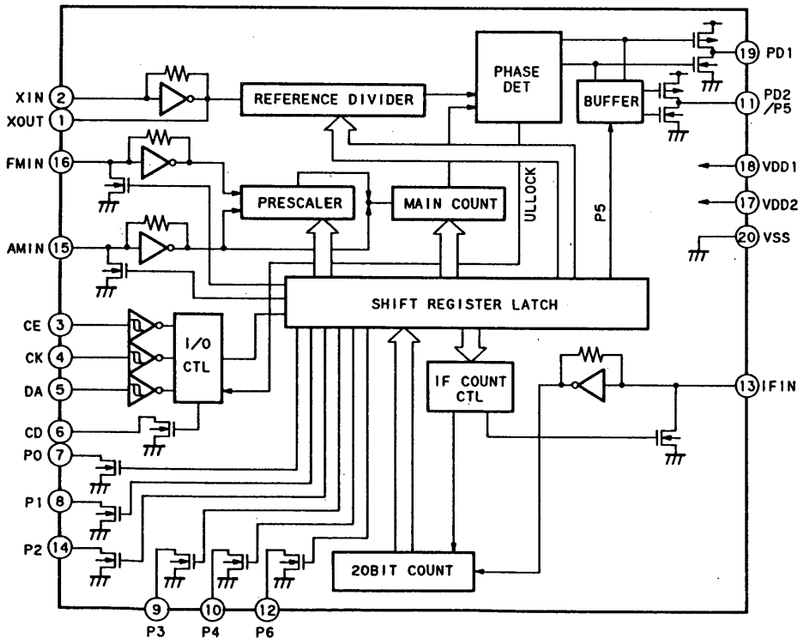
IC804 POWER SUPPLY

• IC Block Diagrams

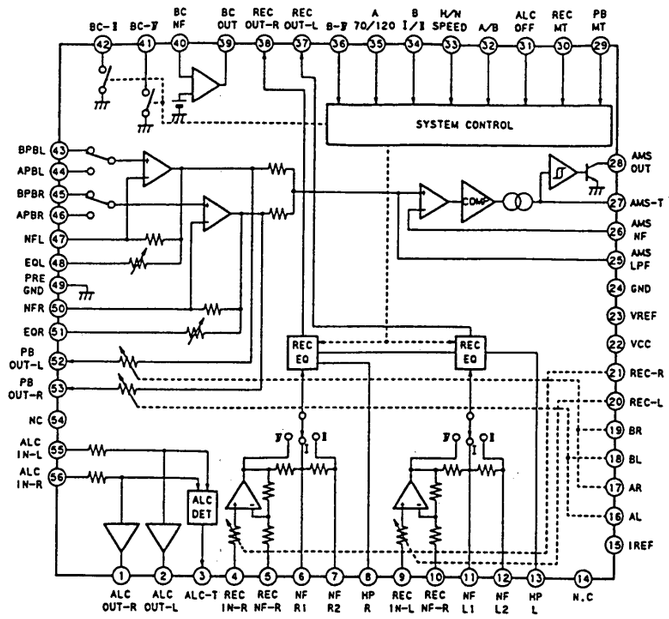
IC1 TA2008N



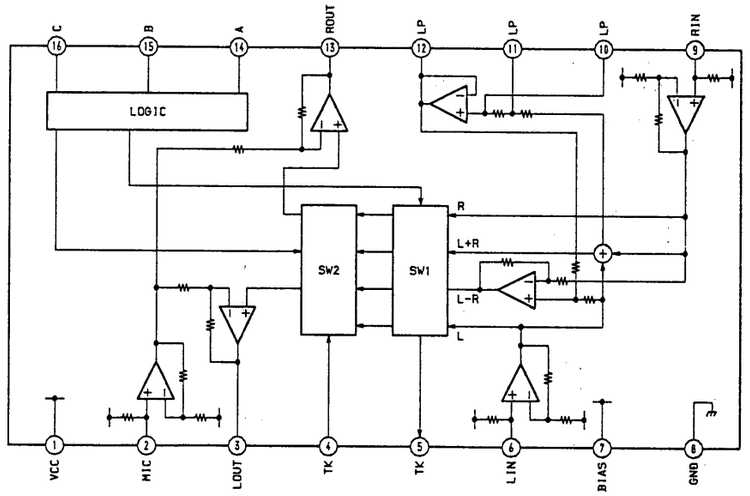
IC2 BU2615S



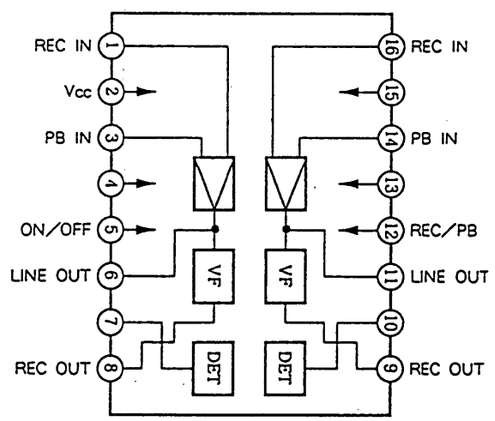
IC302 BA3442BKS (TC BOARD)



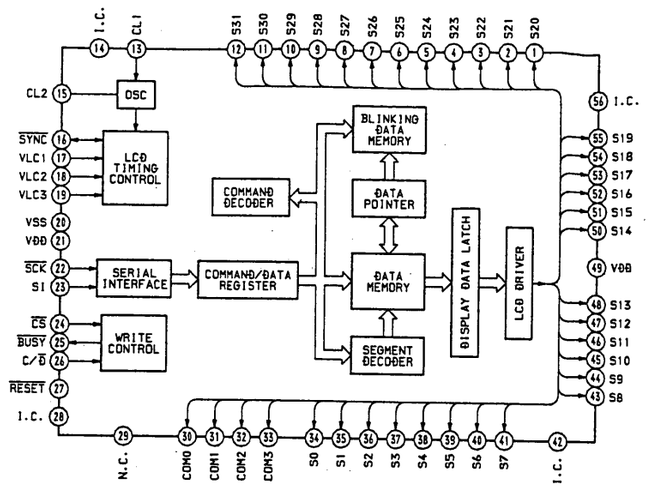
IC302 BA3837 (MAIN BOARD)



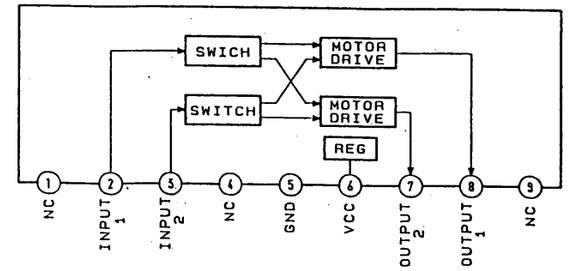
IC305 CXA1102M-T4



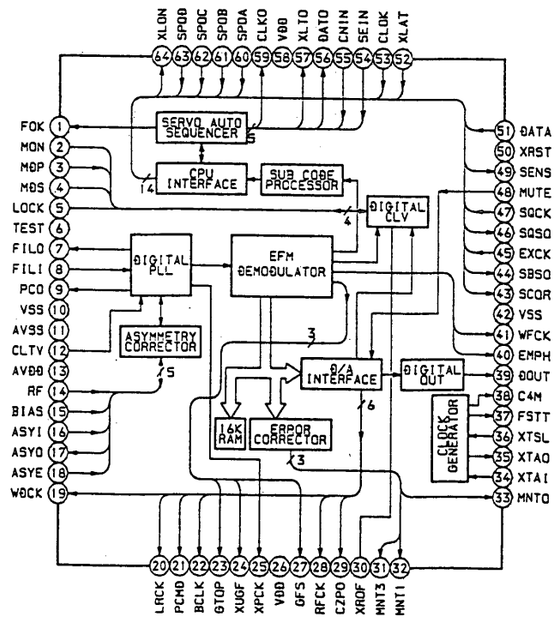
IC402 μPD7225GB-3B7



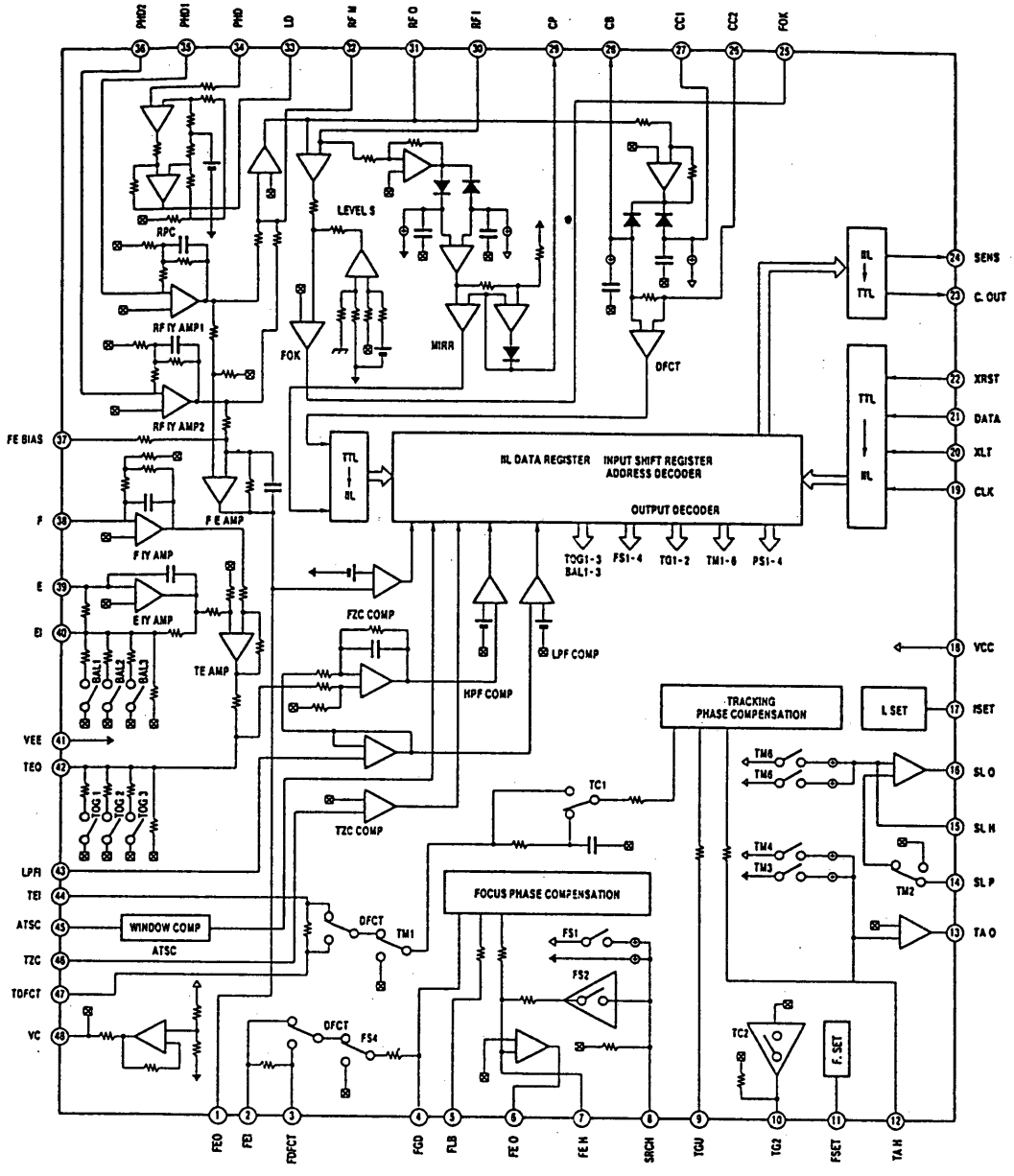
IC651, 652 BA6208



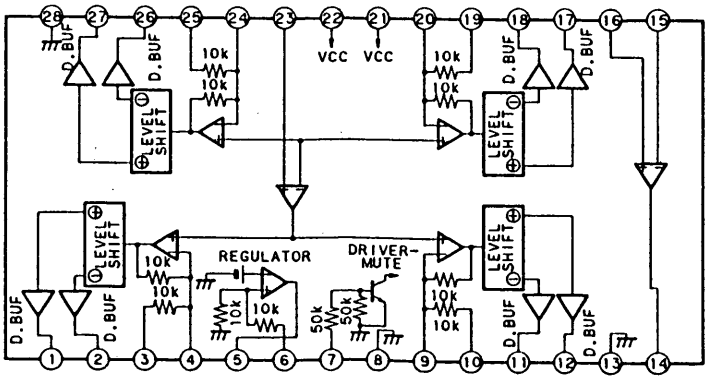
IC702 CXD2507AQ



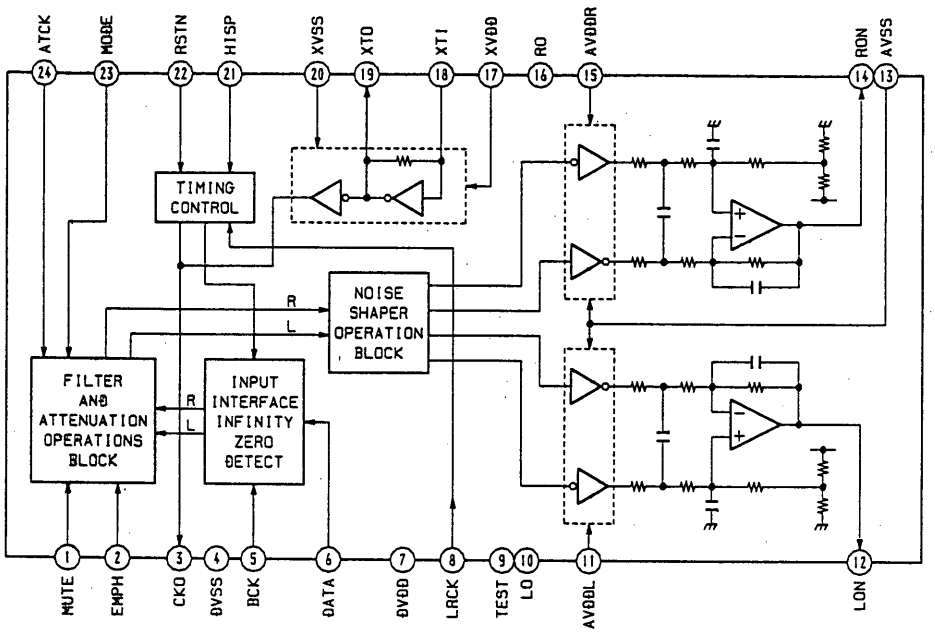
IC701 CXA1782BQ



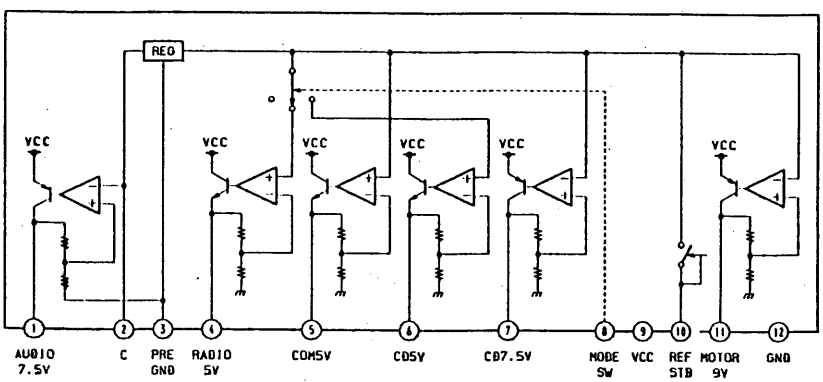
IC703 BA5930FP



IC704 SM5875AM



IC804 BA3933



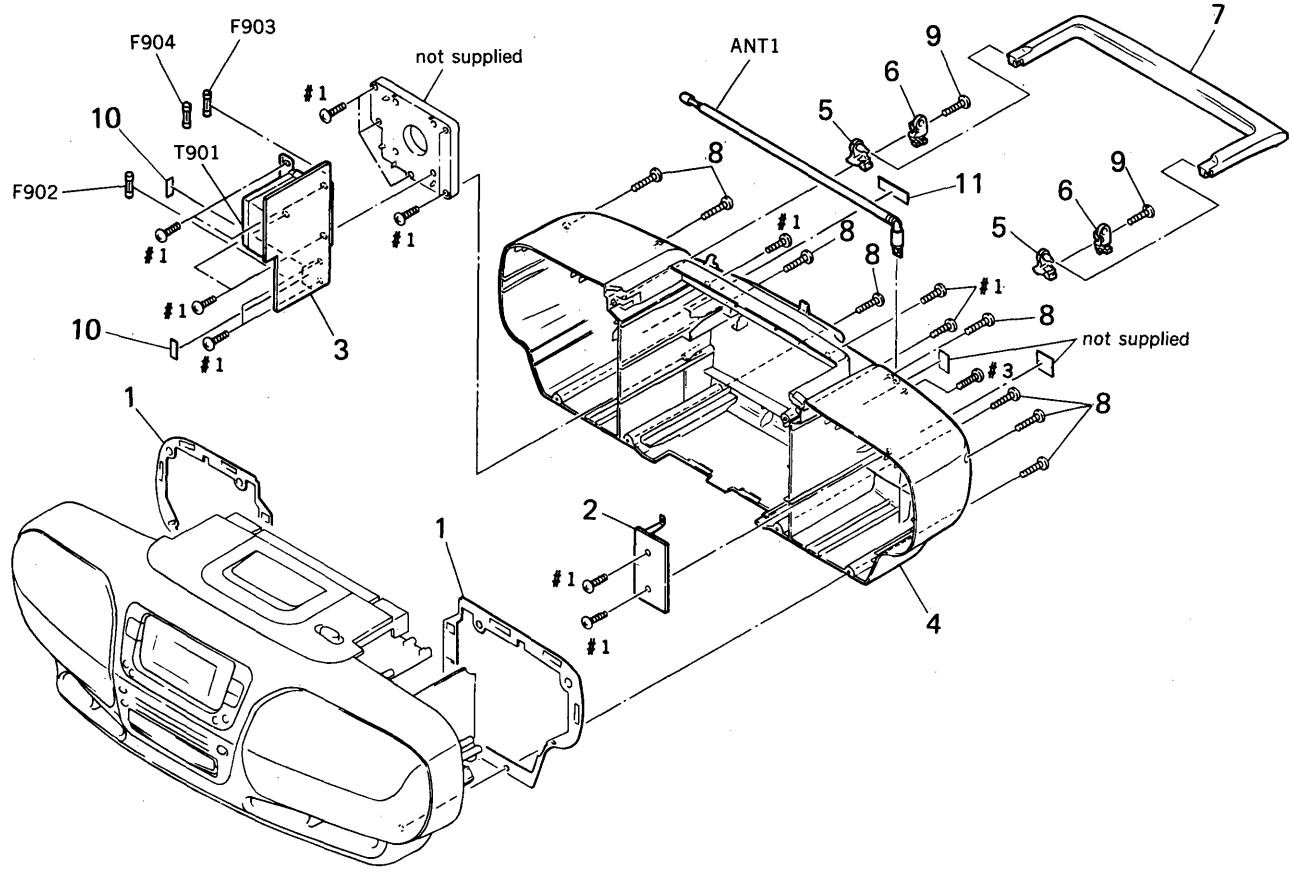
SECTION 7
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

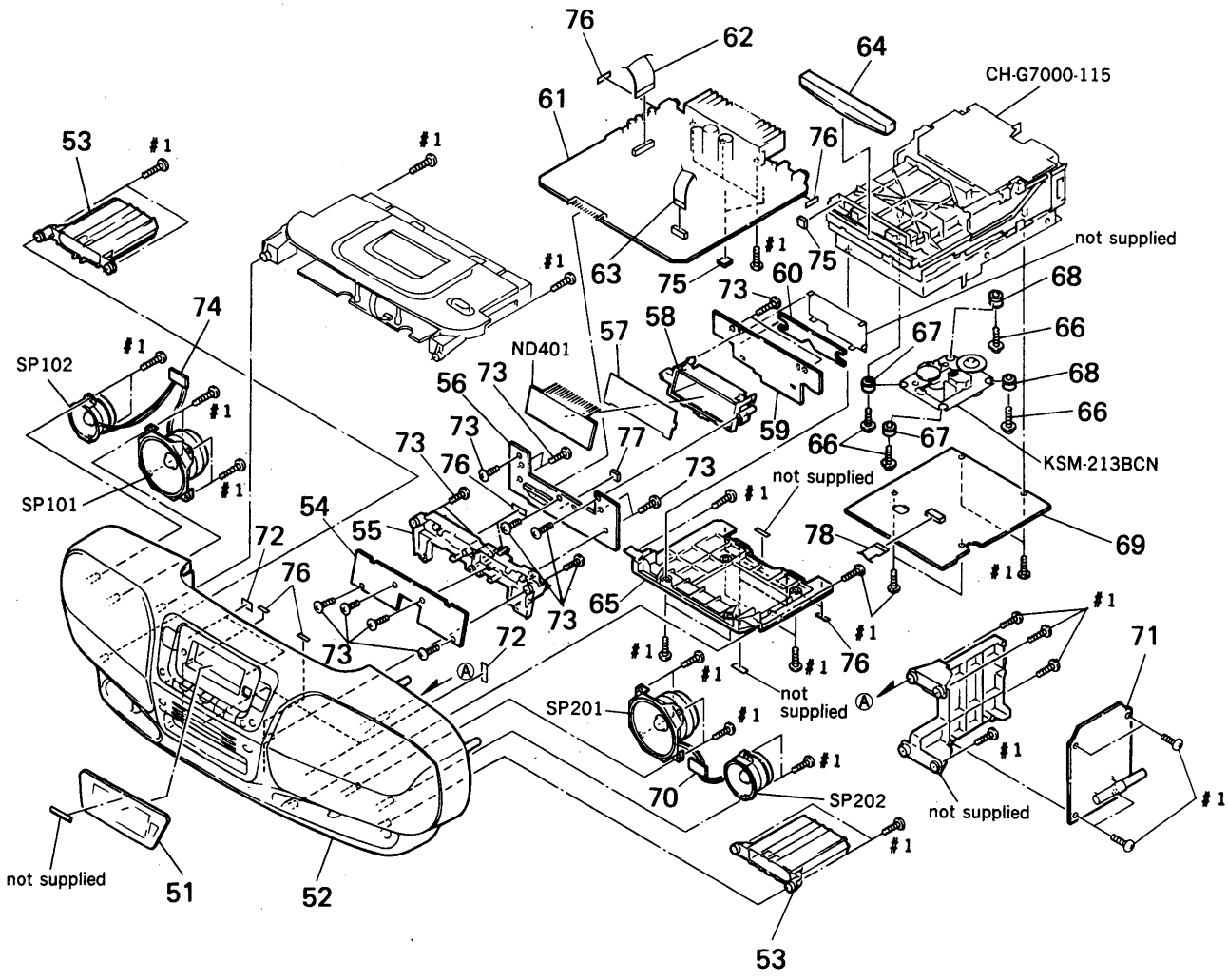
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

7-1. REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-922-025-01	PACKING	
* 2	1-655-816-21	EXT ANT BOARD	
* 3	1-655-815-21	POWER BOARD	
4	3-922-055-21	CABINET (REAR)	
5	3-907-269-01	HOLDER (A), HANDLE	
6	3-907-257-01	HOLDER (B), HANDLE	
7	3-922-026-01	HANDLE	
8	3-325-679-31	SCREW, TAPPING +BV 3X14	
9	3-325-679-41	SCREW, TAPPING +BV 3X16	
10	3-831-441-XX	CUSHION (LCD)	
* 11	4-941-548-01	LABEL, CLASS (1)	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
⚠F902	1-532-237-00	FUSE (3.15A/250V)	
⚠F903	1-532-237-00	FUSE (3.15A/250V)	
⚠F904	1-532-237-00	FUSE (3.15A/250V)	
⚠T901	1-429-157-11	*TRANSFORMER, POWER*	

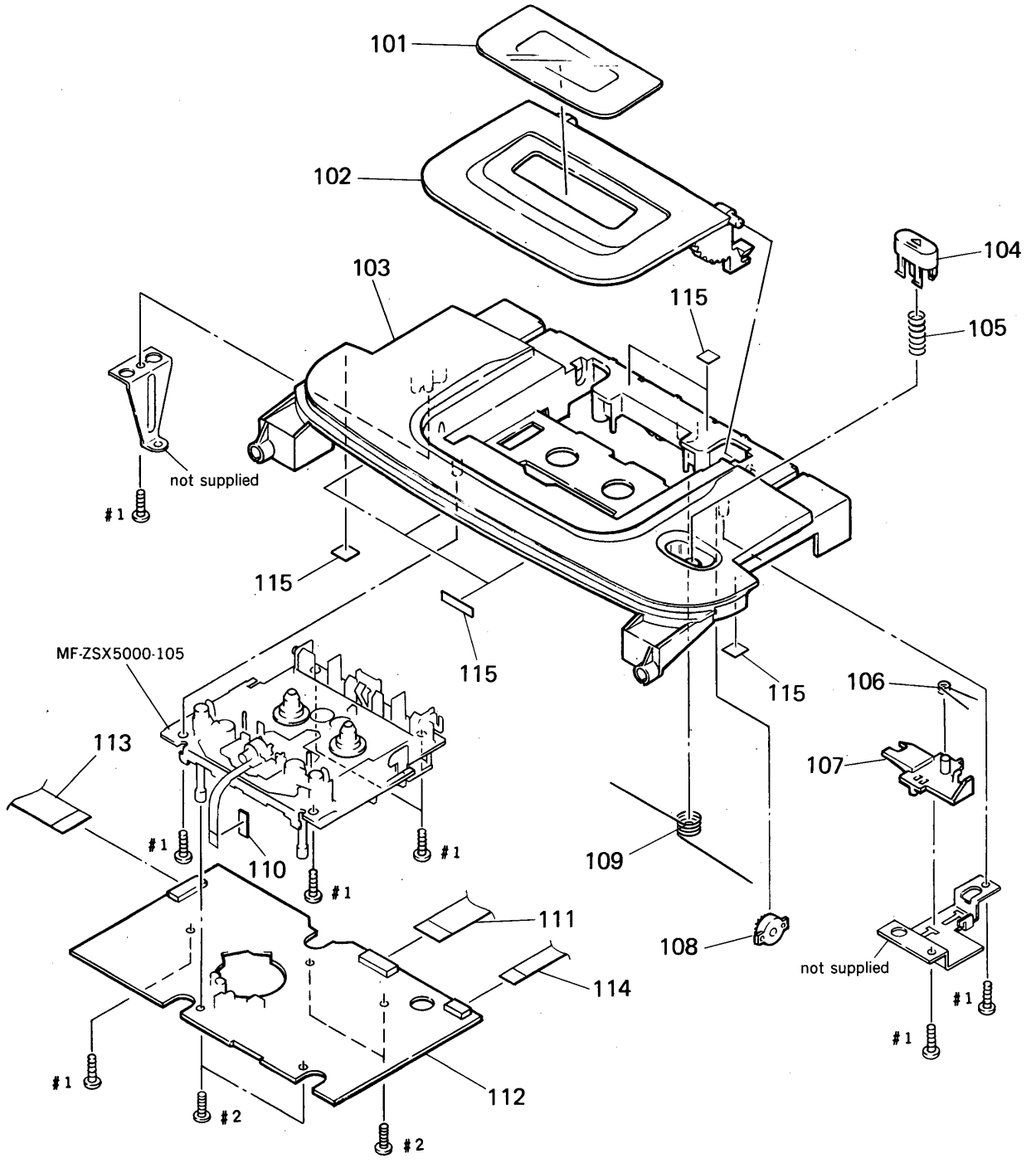
7-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-922-027-11	WINDOW, LCD	
52	X-3370-057-1	CABINET (FRONT) ASSY	
* 53	3-922-024-01	DUCT	
* 54	1-655-812-21	SW BOARD	
* 55	3-922-043-01	CHASSIS (PCB)	
* 56	1-655-811-21	CONTROL BOARD	
57	3-922-042-01	ILLUMINATOR	
* 58	3-922-041-01	HOLDER, LCD	
* 59	A-3305-307-A	LCD BOARD, COMPLETE	
* 60	1-655-814-21	LAMP BOARD	
* 61	A-3305-304-A	MAIN BOARD, COMPLETE	
62	1-769-538-11	WIRE, PARALLEL (FFC) (25 CORE)	
63	1-769-539-11	WIRE, PARALLEL (FFC) (15 CORE)	
64	3-922-028-11	PLATE, ORNAMENTAL, CD	
* 65	3-922-031-01	CABINET (BOTTOM)	
66	3-921-725-01	SCREW, INSULATOR	
67	3-910-095-01	RUBBER, VIBRATION PROOF	

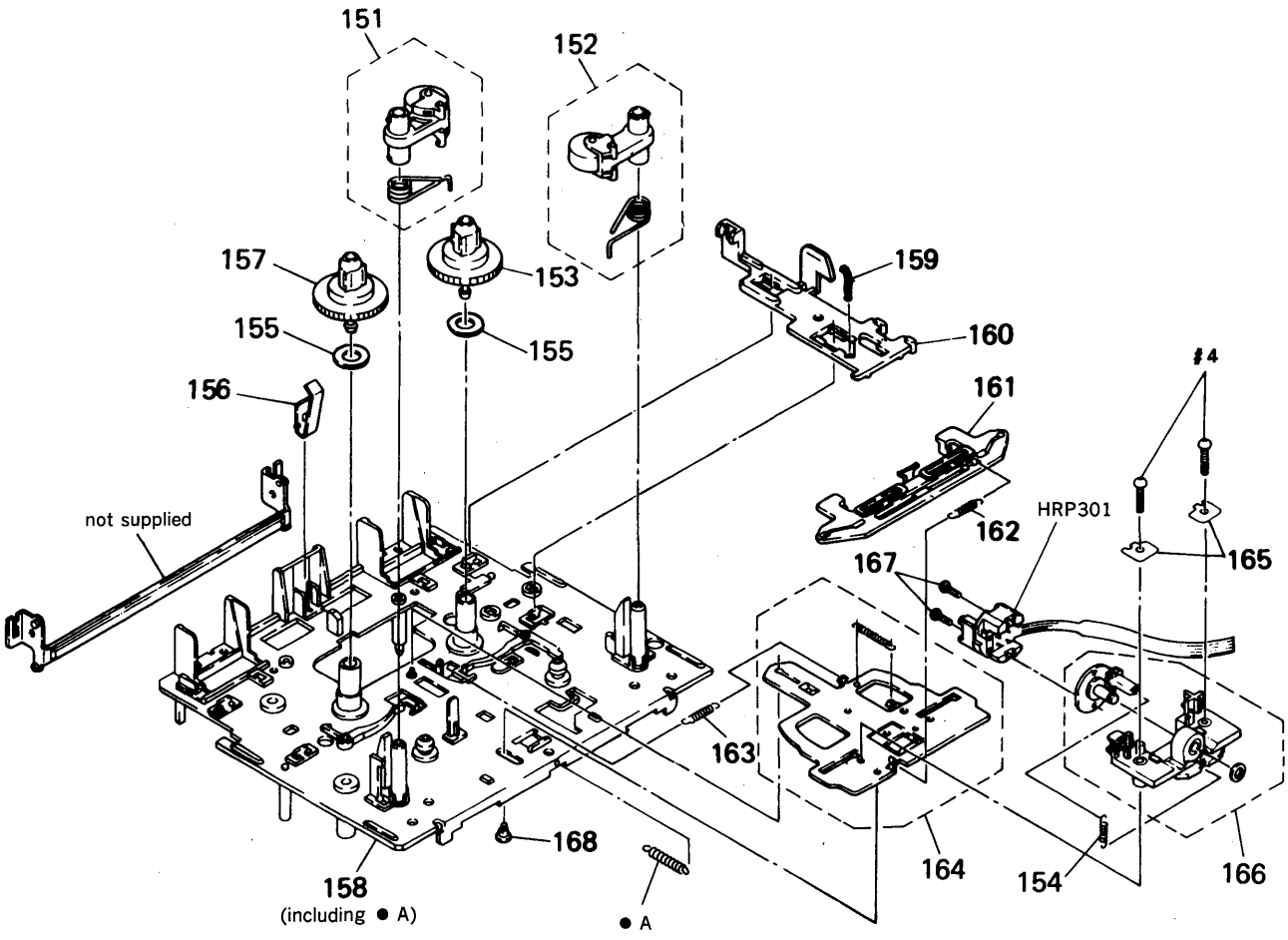
Ref. No.	Part No.	Description	Remark
68	3-910-095-11	RUBBER, VIBRATION PROOF	
* 69	A-3305-305-A	CD CHANGER BOARD, COMPLETE	
* 70	1-657-241-21	SP-R BOARD	
* 71	A-3305-303-A	RADIO BOARD, COMPLETE	
72	3-846-312-01	SPACER	
73	4-931-757-41	SCREW (DIA. 2.6X10) (IT3B)	
* 74	1-657-240-21	SP-L BOARD	
75	9-911-841-XX	CUSHION	
76	3-831-441-XX	CUSHION (LCD)	
77	9-911-840-XX	CUSHION	
78	1-656-478-11	FLEXIBLE BOARD	
ND401	1-810-793-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP101	1-504-458-11	SPEAKER (8CM) (L-CH)	
SP102	1-504-707-11	SPEAKER (5CM) (L-CH)	
SP201	1-504-458-11	SPEAKER (8CM) (R-CH)	
SP202	1-504-707-11	SPEAKER (5CM) (R-CH)	

7-3. UPPER CABINET SECTION



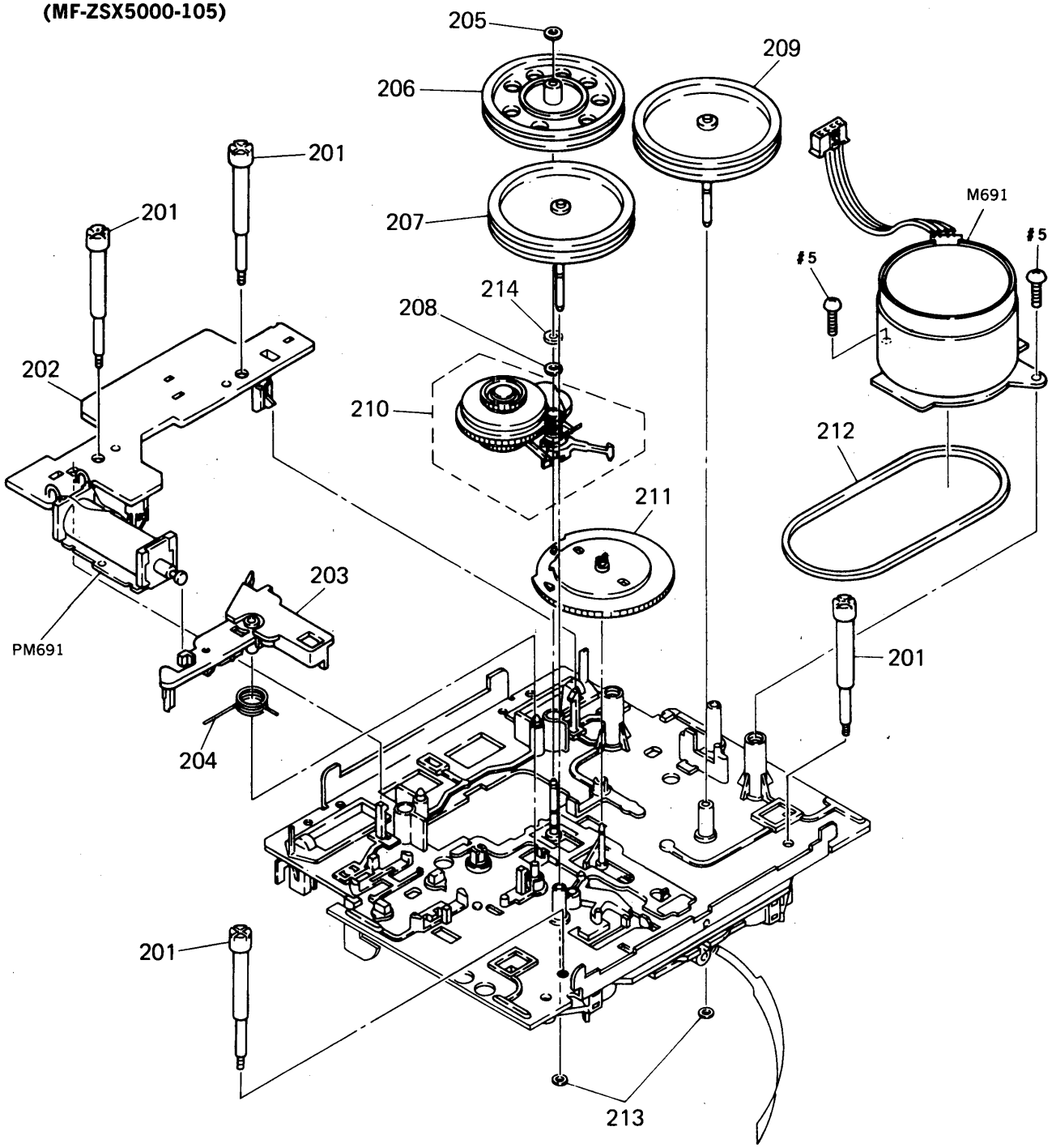
Ref. No.	Part No.	Description	Remark
101	3-922-804-01	WINDOW, CASSETTE	
102	3-922-803-01	HOLDER, CASSETTE	
103	3-922-802-01	CABINET (UPPER)	
104	3-922-805-01	BUTTON, EJECT	
105	3-922-036-01	SPRING, EJECT BUTTON RETURN	
106	3-922-808-01	SPRING, SLIDER RETURN	
107	3-922-806-01	SLIDER, EJECT	
108	3-343-248-01	DAMPER (P), SMALL	
109	3-922-032-01	SPRING, CASSETTE UP	
110	3-846-067-01	SPACER	
111	1-765-012-11	WIRE, PARALLEL (FFC) (13 CORE)	
* 112	A-3305-016-A	TC BOARD, COMPLETE	
113	1-769-540-11	WIRE, PARALLEL (FFC) (15 CORE)	
114	1-775-041-11	WIRE, PARALLEL (FFC) (7 CORE)	
115	3-831-441-XX	CUSHION (LCD)	

7-4. MECHANISM DECK SECTION (1) (MF-ZSX5000-105)



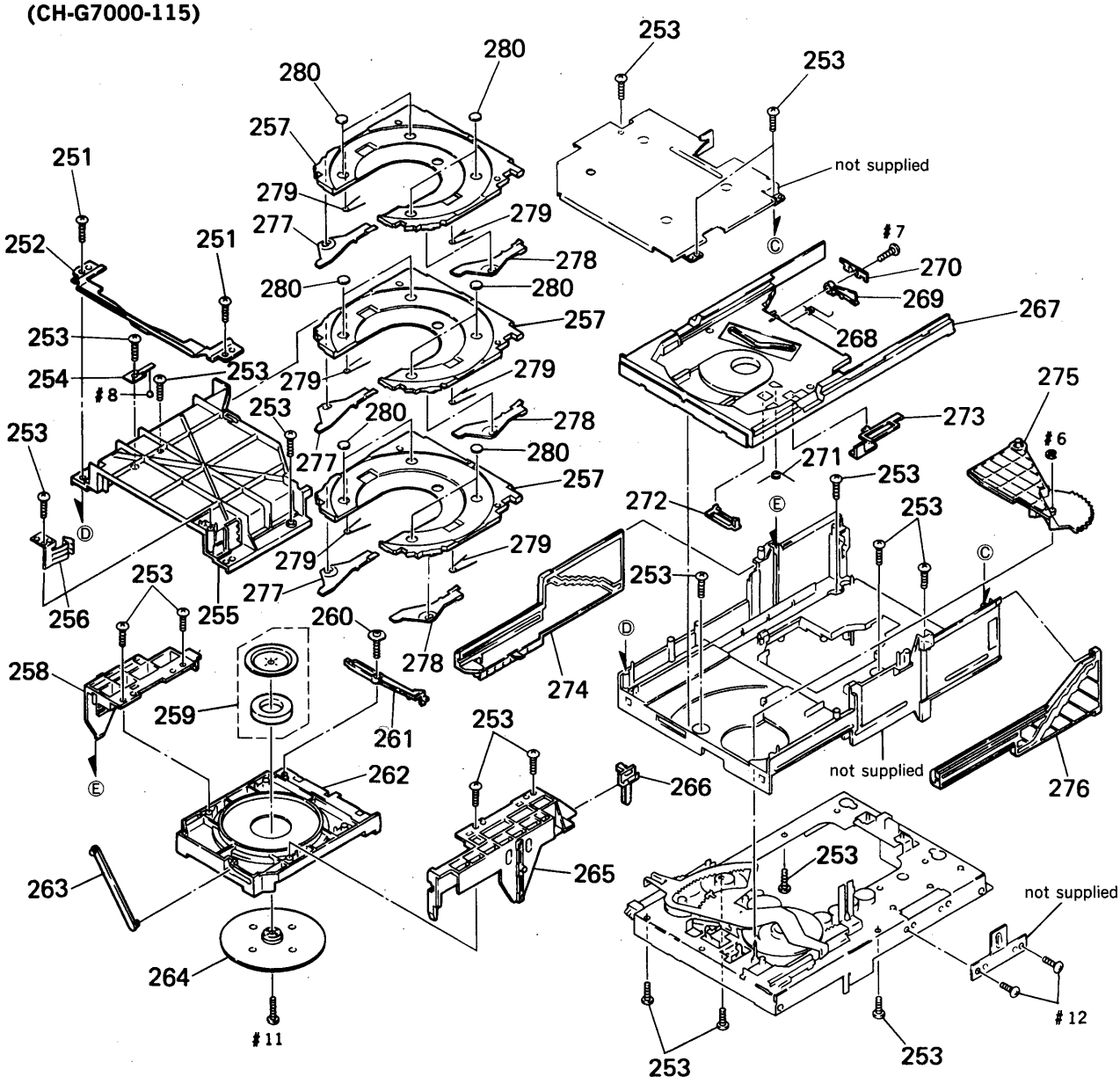
Ref. No.	Part No.	Description	Remark
151	X-3369-664-1	PINCH LEVER (R) ASSY	
152	X-3369-663-1	PINCH LEVER (N) ASSY	
153	X-3364-791-1	GEAR (REEL) ASSY	
154	3-377-663-03	SPRING, TENSION	
155	3-906-038-01	WASHER	
156	3-384-106-01	DETENT, CASSETTE	
157	X-3367-216-1	GEAR (REEL S) ASSY	
* 158	X-3366-586-2	CHASSIS (DIVISION) ASSY	
159	3-377-670-01	SPRING, COMPRESSION	
160	3-377-709-21	LEVER (A), EJECT	
* 161	3-377-700-01	SLIDER (NR)	
162	3-377-666-01	SPRING, TENSION	
163	3-377-673-01	SPRING, TENSION	
164	X-3364-792-1	BASE ASSY, HEAD	
* 165	3-384-356-01	SHIM (t=0.3)	
* 165	3-384-356-11	SHIM (t=0.35)	
* 165	3-384-356-21	SHIM (t=0.4)	
* 165	3-384-356-31	SHIM (t=0.45)	
* 165	3-384-356-41	SHIM (t=0.5)	
166	X-3365-822-1	GUIDE ASSY (Q), HEAD	
167	3-316-938-51	SCREW (B1.4X6), TAPPING	
168	3-382-444-01	SCREW (STOPPER)	
HRP301	1-543-991-11	HEAD, MAGNETIC (REC/PB/ERASE)	

7-5. MECHANISM DECK SECTION (2)
(MF-ZSX5000-105)



Ref. No.	Part No.	Description	Remark
* 201	3-377-696-01	SUPPORT	
* 202	1-641-566-21	RELAY (RP) BOARD	
* 203	3-377-716-01	LEVER, TRIGGER	
204	3-377-687-01	SPRING (TRIGGER LEVER), TORSION	
205	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
206	3-377-706-01	PULLEY	
207	X-3365-789-1	FLYWHEEL (N) ASSY	
208	3-377-664-01	RING, RETAINING	
209	X-3365-790-1	FLYWHEEL (R) ASSY	
210	X-3364-793-1	LEVER ASSY, FR	
211	3-377-798-01	GEAR (CAM)	
212	3-377-688-01	BELT	
213	3-343-358-12	RING, RETAINING	
214	3-701-438-01	WASHER	
M691	A-3263-138-A	MOTOR ASSY	
PM691	1-454-595-11	SOLENOID, PLUNGER	

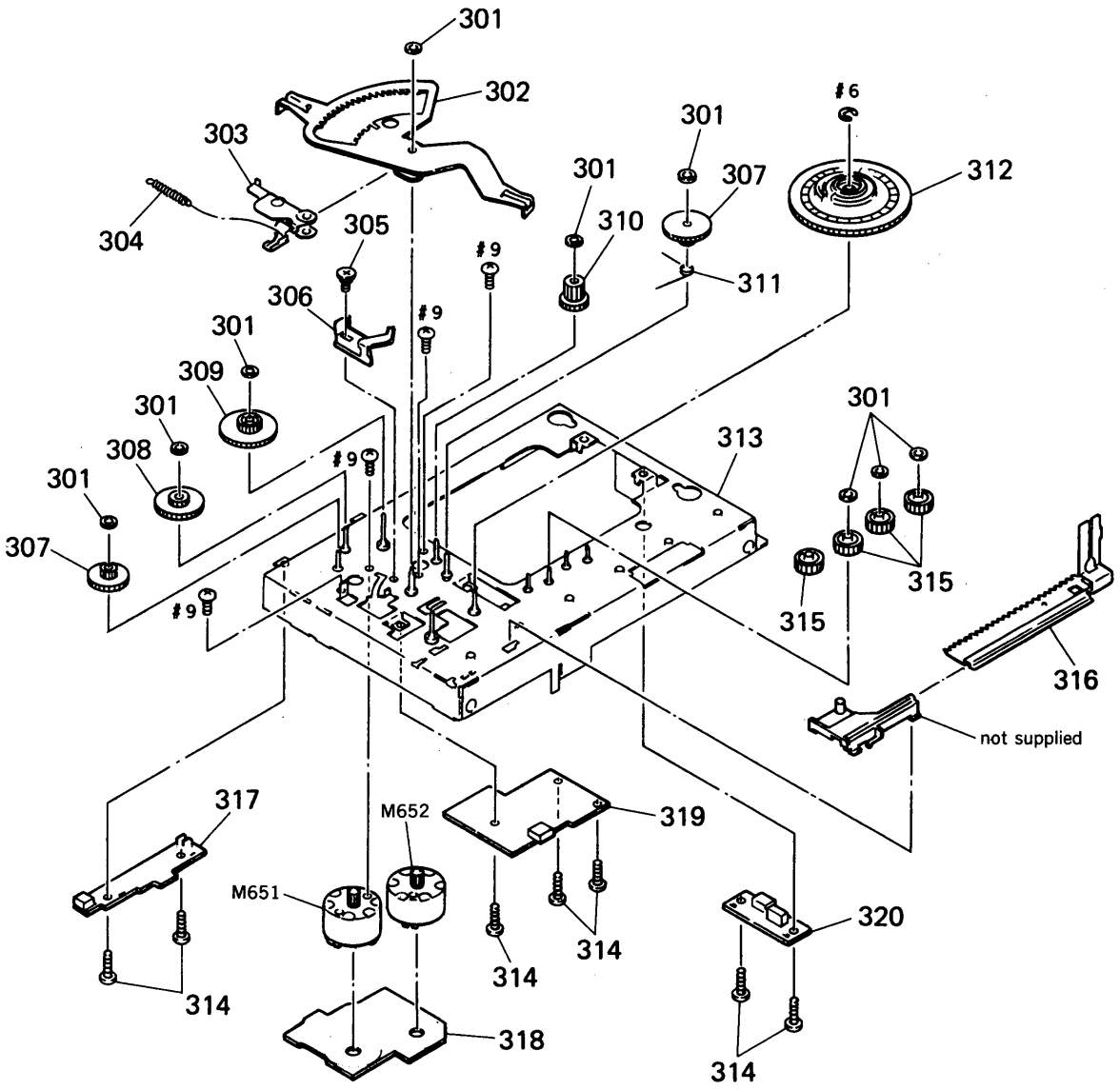
7-6. CHANGER SECTION (1)
(CH-G7000-115)



Ref. No.	Part No.	Description	Remark
251	4-931-757-41	SCREW (DIA. 2.6X10) (IT3B)	
* 252	3-923-121-01	PLATE, STOP, CD	
253	4-931-757-31	SCREW (DIA. 2.6X8) (IT3B), TAPPING	
254	3-921-476-01	SPRING (F), CLICK	
255	3-921-475-01	STOCKER (B)	
256	3-921-492-01	SPRING (3 TUBE), STOCKER	
257	3-921-445-01	TRAY (SUB)	
258	X-3369-859-1	HOLDER (L) ASSY, CH	
259	1-452-759-11	MAGNET	
260	3-921-725-01	SCREW, INSULATOR	
* 261	3-923-308-01	LEVER (SL)	
262	3-921-446-01	HOLDER, CH	
263	3-921-459-01	GUARD, DISC	
264	3-921-458-01	PLATE, CHUCKING	
265	X-3369-715-1	HOLDER (R) ASSY, CH	

Ref. No.	Part No.	Description	Remark
266	3-921-452-01	CLAW, ST	
267	X-3369-858-1	TRAY (MAIN) ASSY	
268	3-921-479-01	SPRING (CD STOPPER)	
269	3-921-483-01	STOPPER, CD	
270	3-921-482-01	REINFORCEMENT (CD STOPPER)	
271	3-921-464-01	SPRING, MAIN TRAY LOCK	
272	3-921-453-01	PLATE, LOCK	
273	3-921-454-01	RETANER, LOCK PLATE	
274	X-3369-856-1	SLIDER (F2) ASSY	
275	3-921-448-01	LEVER (T)	
276	X-3369-855-1	SLIDER (F1) ASSY	
277	3-921-467-01	CLAW (L), DISC	
278	3-921-468-01	CLAW (R), DISC	
279	3-921-490-01	SPRING, TORSION	
280	3-910-695-01	FELT	

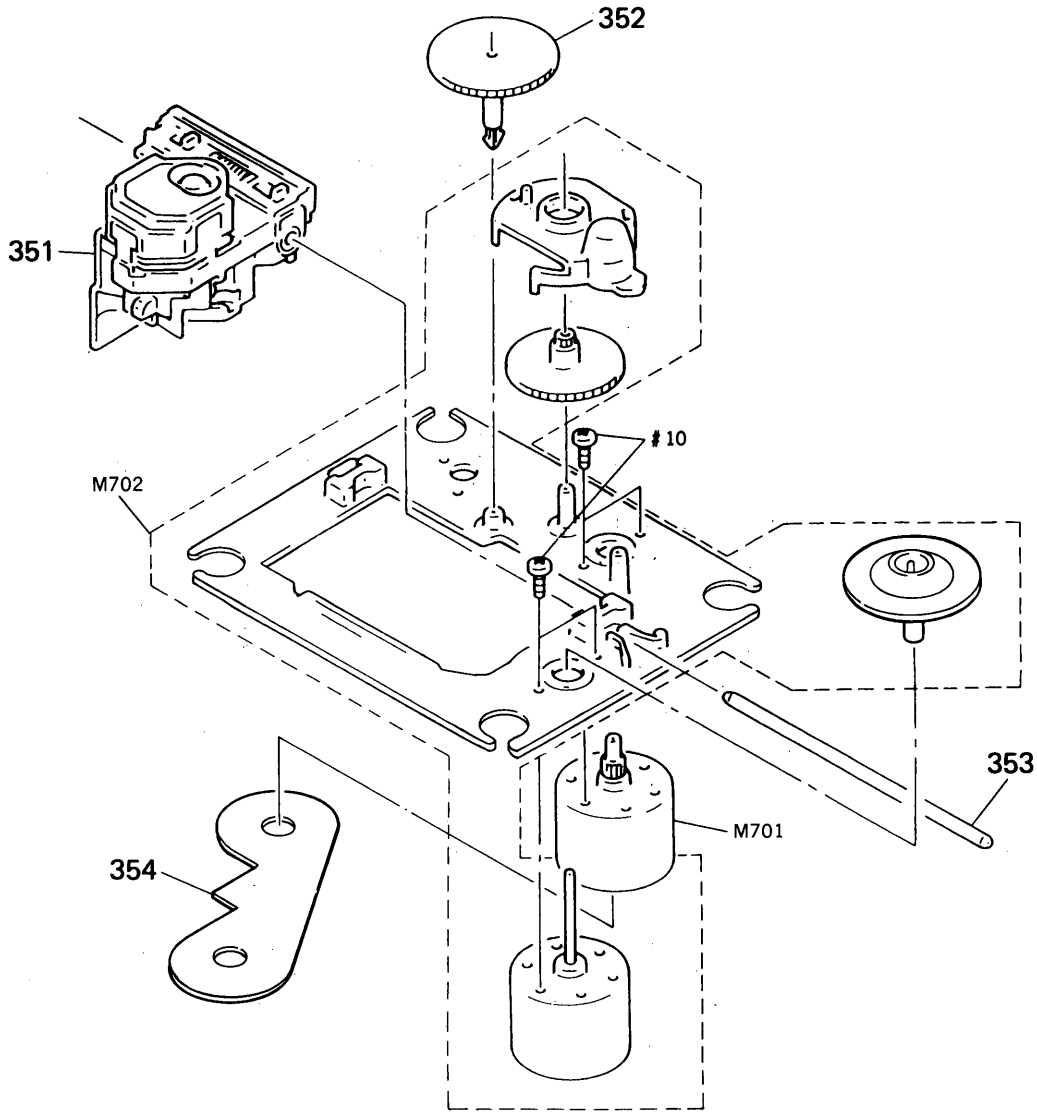
7-7. CHANGER SECTION (2)
(CH-G7000-115)



Ref. No.	Part No.	Description	Remark
301	3-307-948-01	WASHER, POLYESTER	
* 302	3-921-447-01	LEVER (F)	
303	X-3369-857-1	LEVER ASSY, ST DETECTION LOCK	
304	3-923-120-01	SPRING (STB), TENSION	
305	3-312-161-00	SCREW, STEP, PRECISION	
306	3-921-469-01	LEVER, ST RELEASE	
307	3-921-487-01	GEAR (L3)	
308	3-921-460-01	GEAR (F1)	
309	3-921-461-01	GEAR (F2)	
310	3-921-488-01	GEAR (L4)	
311	3-921-440-01	SPRING, RELEASE LEVER	

Ref. No.	Part No.	Description	Remark
312	3-921-462-02	GEAR (L1)	
* 313	X-3369-854-1	CHASSIS (SUB) ASSY	
314	4-931-757-31	SCREW (DIA. 2.6X8) (IT3B), TAPPING	
315	3-921-463-01	GEAR (L2)	
* 316	3-921-449-01	SLIDER (L)	
* 317	1-655-626-11	FLOOR BOARD	
* 318	1-655-624-11	CHANGER-MOTOR BOARD	
* 319	1-655-625-11	MODE BOARD	
* 320	1-655-627-11	DISC BOARD	
M651	X-3370-743-1	MOTOR ASSY (FLOOR UP/DOWN)	
M652	X-3370-743-1	MOTOR ASSY (TRAY LOAD)	

7-8. OPTICAL PICK-UP SECTION (KSM-213BCN)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠351	8-848-367-11	PICK-UP, OPTICAL KSS-213B/K-N	
352	2-625-188-02	GEAR (A) (K)	
* 353	2-626-908-01	SHAFT, SLED	
* 354	1-655-629-11	CD-MOTOR BOARD	
M701	X-2625-769-1	MOTOR GEAR ASSY (SLED)	
M702	X-2625-877-1	MOTOR ASSY, SPINDLE	

SECTION 8
ELECTRICAL PARTS LIST

CD CHANGER

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	A-3305-305-A	CD CHANGER BOARD, COMPLETE			
		**********			
	7-685-647-79	SCREW, TAPPING +BV 3X10			
		< CAPACITOR >			
C600	1-162-282-31	CERAMIC	100PF	10%	50V
C601	1-162-294-31	CERAMIC	0.001uF	10%	50V
C602	1-162-282-31	CERAMIC	100PF	10%	50V
C603	1-162-294-31	CERAMIC	0.001uF	10%	50V
C604-607					
	1-162-282-31	CERAMIC	100PF	10%	50V
C608-610					
	1-162-306-11	CERAMIC	0.01uF	30%	16V
C611-614					
	1-162-282-31	CERAMIC	100PF	10%	50V
C615	1-162-288-31	CERAMIC	330PF	10%	50V
C616	1-162-288-31	CERAMIC	330PF	10%	50V
C617	1-136-165-00	FILM	0.1uF	5%	50V
C618	1-104-664-11	ELECT	47uF	20%	10V
C619	1-124-925-11	ELECT	2.2uF	20%	100V
C620	1-136-165-00	FILM	0.1uF	5%	50V
C621	1-104-664-11	ELECT	47uF	20%	10V
C622	1-124-443-00	ELECT	100uF	20%	10V
C700	1-162-306-11	CERAMIC	0.01uF	30%	16V
C701	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C702-704					
	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-131-375-00	TANTALUM	4.7uF	10%	10V
C706	1-130-489-00	MYLAR	0.033uF	5%	50V
C707	1-130-486-00	MYLAR	0.018uF	10%	50V
C708	1-162-199-31	CERAMIC	10PF	5%	50V
C709	1-126-162-11	ELECT	3.3uF	20%	50V
C710	1-130-493-00	MYLAR	0.068uF	5%	50V
C711	1-162-215-31	CERAMIC	47PF	5%	50V
C712	1-162-306-11	CERAMIC	0.01uF	30%	16V
C713	1-130-489-00	MYLAR	0.033uF	5%	50V
C714	1-162-306-11	CERAMIC	0.01uF	30%	16V
C715	1-130-489-00	MYLAR	0.033uF	5%	50V
C716	1-130-483-00	MYLAR	0.01uF	5%	50V

Ref.No.	Part No.	Description			Remark
C717	1-104-664-11	ELECT	47uF	20%	10V
C718	1-124-907-11	ELECT	10uF	20%	50V
C721	1-130-491-00	MYLAR	0.047uF	5%	50V
C722	1-161-494-00	CERAMIC	0.022uF		25V
C723	1-136-165-00	FILM	0.1uF	5%	50V
C725	1-162-199-31	CERAMIC	10PF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-162-306-11	CERAMIC	0.01uF	30%	16V
C728	1-136-165-00	FILM	0.1uF	5%	50V
C729	1-124-589-11	ELECT	47uF	20%	16V
C730	1-124-472-11	ELECT	470uF	20%	10V
C731	1-162-294-31	CERAMIC	0.001uF	10%	50V
C732	1-130-484-00	MYLAR	0.012uF	5%	50V
C734	1-130-481-00	MYLAR	0.0068uF	5%	50V
C737	1-162-294-31	CERAMIC	0.001uF	10%	50V
C740	1-136-165-00	FILM	0.1uF	5%	50V
C741	1-124-589-11	ELECT	47uF	20%	16V
C742	1-136-173-00	FILM	0.47uF	5%	50V
C743	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C744	1-162-286-21	CERAMIC	220PF	10%	50V
C745	1-136-169-00	FILM	0.22uF	5%	50V
C746	1-162-306-11	CERAMIC	0.01uF	30%	16V
C747	1-130-483-00	MYLAR	0.01uF	5%	50V
C750	1-104-666-11	ELECT	220uF	20%	10V
C752	1-102-942-00	CERAMIC	5PF	0.5PF	50V
C753	1-102-942-00	CERAMIC	5PF	0.5PF	50V
C754	1-162-306-11	CERAMIC	0.01uF	30%	16V
C755	1-161-494-00	CERAMIC	0.022uF		25V
C756-759					
	1-162-306-11	CERAMIC	0.01uF	30%	16V
C760	1-104-666-11	ELECT	220uF	20%	10V
C761	1-126-176-11	ELECT	220uF	20%	10V
C763	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C764	1-126-163-11	ELECT	4.7uF	20%	50V
C773	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C774	1-126-163-11	ELECT	4.7uF	20%	50V
C780	1-162-306-11	CERAMIC	0.01uF	30%	16V
C781	1-161-722-11	CERAMIC	0.1uF	10%	25V
C786	1-136-165-00	FILM	0.1uF	5%	50V
C787	1-104-666-11	ELECT	220uF	20%	10V

CD CHANGER

Ref. No.	Part No.	Description			Remark
C788	1-136-165-00	FILM	0.1uF	5%	50V
C789	1-162-282-31	CERAMIC	100PF	10%	50V
C791	1-162-282-31	CERAMIC	100PF	10%	50V
C795	1-162-282-31	CERAMIC	100PF	10%	50V
C796	1-162-306-11	CERAMIC	0.01uF	30%	16V
C797	1-162-282-31	CERAMIC	100PF	10%	50V
C798	1-162-306-11	CERAMIC	0.01uF	20%	16V
C799	1-162-794-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN301	1-565-650-11	SOCKET, CONNECTOR 25P			
* CN602	1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P			
* CN603	1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P			
* CN604	1-566-002-11	PIN, CONNECTOR (PC BOARD) 5P			
* CN605	1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P			
CN701	1-770-673-11	CONNECTOR, FFC/FPC (ZIF) 16P			
* CN703	1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
* CN712	1-566-002-11	PIN, CONNECTOR (PC BOARD) 5P			
		< DIODE >			
D600	8-719-991-33	DIODE 1SS133T-77			
D601	8-719-109-97	DIODE RD6.8ES-B2			
D701	8-719-991-33	DIODE 1SS133T-77			
D704	8-719-991-33	DIODE 1SS133T-77			
		< FERRITE BEAD >			
FB701	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
FB702	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
FB711	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
FB721	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
		< IC >			
IC600	8-759-330-97	IC M34225M2-621FP			
IC701	8-752-069-56	IC CXA1782BQ			
IC702	8-752-372-94	IC CXD2507AQ			
IC703	8-759-336-75	IC BA5930FP			
IC704	8-759-283-60	IC SM5875AM-ET			
		< COIL >			
L600	1-410-521-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q600	8-729-031-10	TRANSISTOR 2SD1961-T103-RS			
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q603	8-729-904-36	TRANSISTOR DTC114YS			
Q701	8-729-801-84	TRANSISTOR 2SB1013-4			
Q702	8-729-900-85	TRANSISTOR DTC144WS			
Q703	8-729-900-74	TRANSISTOR DTC143TS			

Ref. No.	Part No.	Description			Remark
Q704	8-729-207-35	TRANSISTOR 2SJ105-Y			
Q705	8-729-902-80	TRANSISTOR DTA114YS			
Q760	8-729-900-74	TRANSISTOR DTC143TS			
Q770	8-729-900-74	TRANSISTOR DTC143TS			
		< RESISTOR >			
R600	1-249-429-11	CARBON	10K	5%	1/4W
R601	1-249-429-11	CARBON	10K	5%	1/4W
R602-615	1-249-417-11	CARBON	1K	5%	1/4W
R616-619	1-249-429-11	CARBON	10K	5%	1/4W
R620	1-249-417-11	CARBON	1K	5%	1/4W
R621-623	1-249-429-11	CARBON	10K	5%	1/4W
R624	1-247-903-00	CARBON	1M	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
R627	1-249-441-11	CARBON	100K	5%	1/4W
R628	1-249-411-11	CARBON	330	5%	1/4W
R629	1-249-429-11	CARBON	10K	5%	1/4W
R630	1-249-429-11	CARBON	10K	5%	1/4W
R632	1-249-429-11	CARBON	10K	5%	1/4W
R633	1-249-433-11	CARBON	22K	5%	1/4W
R634	1-249-437-11	CARBON	47K	5%	1/4W
R635	1-249-433-11	CARBON	22K	5%	1/4W
R636	1-249-433-11	CARBON	22K	5%	1/4W
R637	1-249-429-11	CARBON	10K	5%	1/4W
R638	1-249-429-11	CARBON	10K	5%	1/4W
R700	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-247-896-11	CARBON	510K	5%	1/4W
R703	1-249-441-11	CARBON	100K	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/4W
R705	1-249-437-11	CARBON	47K	5%	1/4W
R706	1-249-441-11	CARBON	100K	5%	1/4W
R707	1-249-432-11	CARBON	18K	5%	1/4W
R708	1-247-883-00	CARBON	150K	5%	1/4W
R709	1-249-432-11	CARBON	18K	5%	1/4W
R710	1-249-393-11	CARBON	10	5%	1/4W
R714	1-247-883-00	CARBON	150K	5%	1/4W
R716	1-249-430-11	CARBON	12K	5%	1/4W
R717	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R720	1-247-891-00	CARBON	330K	5%	1/4W
R725	1-249-437-11	CARBON	47K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R727	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W
R731	1-249-433-11	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R732	1-249-429-11	CARBON	10K	5%	1/4W
R733	1-249-435-11	CARBON	33K	5%	1/4W
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-425-11	CARBON	4.7K	5%	1/4W
R737	1-249-417-11	CARBON	1K	5%	1/4W
R738	1-247-807-31	CARBON	100	5%	1/4W
R739	1-249-417-11	CARBON	1K	5%	1/4W
R740	1-249-423-11	CARBON	3.3K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-423-11	CARBON	3.3K	5%	1/4W
R743	1-247-903-00	CARBON	1M	5%	1/4W
R744	1-247-887-00	CARBON	220K	5%	1/4W
R745	1-249-429-11	CARBON	10K	5%	1/4W
R746	1-249-437-11	CARBON	47K	5%	1/4W
R747	1-249-417-11	CARBON	1K	5%	1/4W
R748	1-249-429-11	CARBON	10K	5%	1/4W
R749	1-249-429-11	CARBON	10K	5%	1/4W
R750	1-247-807-31	CARBON	100	5%	1/4W
R752	1-249-429-11	CARBON	10K	5%	1/4W
R753	1-249-429-11	CARBON	10K	5%	1/4W
R754	1-249-417-11	CARBON	1K	5%	1/4W
R755	1-249-429-11	CARBON	10K	5%	1/4W
R756-771					
	1-249-417-11	CARBON	1K	5%	1/4W
R772	1-249-429-11	CARBON	10K	5%	1/4W
R773	1-249-417-11	CARBON	1K	5%	1/4W
R774	1-249-417-11	CARBON	1K	5%	1/4W
R775	1-249-429-11	CARBON	10K	5%	1/4W
R776	1-249-417-11	CARBON	1K	5%	1/4W
R777	1-249-417-11	CARBON	1K	5%	1/4W
R780-783					
	1-249-439-11	CARBON	68K	5%	1/4W
R784	1-249-440-11	CARBON	82K	5%	1/4W
R785	1-249-440-11	CARBON	82K	5%	1/4W
R790	1-249-433-11	CARBON	22K	5%	1/4W
R792	1-249-429-11	CARBON	10K	5%	1/4W

< VARIABLE RESISTOR >

RV701	1-230-497-11	RES, ADJ, CARBON 22K
RV702	1-230-497-11	RES, ADJ, CARBON 22K
RV703	1-230-495-11	RES, ADJ, CARBON 2.2K
RV704	1-230-497-11	RES, ADJ, CARBON 22K

< VIBRATOR >

X600	1-760-587-11	VIBRATOR, CERAMIC (500kHz)
X701	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)

****

Ref. No.	Part No.	Description			Remark
*	1-655-629-11	CD-MOTOR BOARD			
		**********			
		< CONNECTOR >			
* CNP707	1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P			
		< SWITCH >			
S701	1-571-936-11	SWITCH, LEAF (LIMIT)			

****

*	1-655-624-11	CHANGER-MOTOR BOARD			
		**********			
		< CAPACITOR >			
C651-654					
	1-136-165-00	FILM	0.1uF	5%	50V
C655	1-104-664-11	ELECT	47uF	20%	10V
		< IC >			
IC651	8-759-962-08	IC BA6208			
IC652	8-759-962-08	IC BA6208			
		< COIL >			
L651-655					
	1-408-080-00	INDUCTOR	100uH		

****

*	1-655-811-21	CONTROL BOARD			
		**********			
		< CAPACITOR >			
C402	1-126-160-11	ELECT	1uF	20%	50V
C403	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN401	1-770-333-11	HOUSING, CONNECTOR (PC BOARD) 20P			
		< DIODE >			
D401	8-719-045-62	LED SLR-342VC-A-47 (STANDBY)			
		< IC >			
IC401	8-749-011-03	IC GP1U26X			
		< RESISTOR >			
R401	1-249-415-11	CARBON	680	5%	1/4W
R402	1-249-416-11	CARBON	820	5%	1/4W
R403	1-249-418-11	CARBON	1.2K	5%	1/4W
R404	1-249-420-11	CARBON	1.8K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R431	1-249-417-11	CARBON	1K	5%	1/4W
		< SWITCH >			
S401	1-572-199-11	SWITCH, KEY BOARD (POWER)			
S403	1-572-199-11	SWITCH, KEY BOARD (+ (VOLUME))			
S404	1-572-199-11	SWITCH, KEY BOARD (- (VOLUME))			
**********					
*	1-655-627-11	DISC BOARD			
		**********			
		< PHOTO REFLECTOR >			
PH661	8-749-924-30	PHOTO REFLECTOR	GP2S28		
		< RESISTOR >			
R661	1-249-433-11	CARBON	22K	5%	1/4W
R662	1-249-409-11	CARBON	220	5%	1/4W
**********					
*	1-655-816-21	EXT ANT BOARD			
		**********			
		< CONNECTOR >			
CN3	1-569-614-11	PLUG, CONNECTOR (2.5MM) 2P			
CN4	1-536-354-00	POST PIN			
**********					
*	1-655-626-11	FLOOR BOARD			
		**********			
		< PHOTO REFLECTOR >			
PH663	8-719-052-69	PHOTO REFLECTOR	RPI-352		
		< RESISTOR >			
R663	1-249-435-11	CARBON	33K	5%	1/4W
R664	1-249-407-11	CARBON	150	5%	1/4W
R665	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S663	1-762-010-11	SWITCH, LEVER (CHUCKING)			
**********					
*	1-655-814-21	LAMP BOARD			
		**********			
		< PILOT LAMP >			
PL401-404					
	1-518-688-11	LAMP, PILOT			
**********					

Ref. No.	Part No.	Description			Remark
*	A-3305-307-A	LCD BOARD, COMPLETE			
		**********			
*	3-922-041-01	HOLDER, LCD			
	3-922-042-01	ILLUMINATOR			
		< CAPACITOR >			
C404	1-162-306-11	CERAMIC	0.01uF	30%	16V
C405	1-124-907-11	ELECT	10uF	20%	50V
C406	1-162-306-11	CERAMIC	0.01uF	30%	16V
C407-409					
	1-162-851-11	CERAMIC	0.1uF		16V
C410	1-162-290-31	CERAMIC	470PF	10%	50V
C411	1-162-290-31	CERAMIC	470PF	10%	50V
C412	1-162-286-21	CERAMIC	220PF	10%	50V
C413	1-162-286-21	CERAMIC	220PF	10%	50V
C414	1-162-851-11	CERAMIC	0.1uF		16V
		< IC >			
IC402	8-759-153-90	IC	uPD7225GB-3B7		
		< COIL >			
L401	1-410-509-11	INDUCTOR	10uH		
		< LIQUID CRYSTAL DISPLAY >			
ND401	1-810-793-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< RESISTOR >			
R422-424					
	1-249-429-11	CARBON	10K	5%	1/4W
R425	1-249-432-11	CARBON	18K	5%	1/4W
R426	1-249-425-11	CARBON	4.7K	5%	1/4W
R427	1-249-417-11	CARBON	1K	5%	1/4W
R428	1-249-417-11	CARBON	1K	5%	1/4W
R429	1-249-429-11	CARBON	10K	5%	1/4W
R430	1-249-429-11	CARBON	10K	5%	1/4W
R433	1-247-883-00	CARBON	150K	5%	1/4W
**********					

Ref. No.	Part No.	Description			Remark
*	A-3305-304-A	MAIN BOARD, COMPLETE			
		**********			
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S			
	7-685-647-79	SCREW, TAPPING +BV 3X10			
	9-911-841-XX	CUSHION			
		< BUZZER >			
BZ801	1-529-080-11	BUZZER, PIEZOELECTRIC			
		< CAPACITOR >			
C115	1-124-903-11	ELECT	1uF	20%	50V
C116	1-162-282-31	CERAMIC	100PF	10%	50V
C117	1-130-475-00	MYLAR	0.0022uF	5%	50V
C121	1-124-903-11	ELECT	1uF	20%	50V
C122	1-124-903-11	ELECT	1uF	20%	50V
C131	1-124-903-11	ELECT	1uF	20%	50V
C133	1-136-161-00	FILM	0.047uF	5%	50V
C134	1-136-161-00	FILM	0.047uF	5%	50V
C135	1-162-290-31	CERAMIC	470PF	10%	50V
C141	1-136-165-00	FILM	0.1uF	5%	50V
C144	1-136-165-00	FILM	0.1uF	5%	50V
C145	1-124-903-11	ELECT	1uF	20%	50V
C182	1-136-165-00	FILM	0.1uF	5%	50V
C183	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C215	1-124-903-11	ELECT	1uF	20%	50V
C216	1-162-282-31	CERAMIC	100PF	10%	50V
C217	1-130-475-00	MYLAR	0.0022uF	5%	50V
C221	1-124-903-11	ELECT	1uF	20%	50V
C222	1-124-903-11	ELECT	1uF	20%	50V
C231	1-124-903-11	ELECT	1uF	20%	50V
C233	1-136-161-00	FILM	0.047uF	5%	50V
C234	1-136-161-00	FILM	0.047uF	5%	50V
C235	1-162-290-31	CERAMIC	470PF	10%	50V
C241	1-136-165-00	FILM	0.1uF	5%	50V
C244	1-136-165-00	FILM	0.1uF	5%	50V
C245	1-124-903-11	ELECT	1uF	20%	50V
C282	1-136-165-00	FILM	0.1uF	5%	50V
C283	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C301	1-162-306-11	CERAMIC	0.01uF	30%	16V
C302	1-162-306-11	CERAMIC	0.01uF	30%	16V
C303	1-124-903-11	ELECT	1uF	20%	50V
C304	1-124-903-11	ELECT	1uF	20%	50V
C305	1-126-233-11	ELECT	22uF	20%	50V
C306	1-126-963-11	ELECT	4.7uF	20%	50V
C308	1-162-282-31	CERAMIC	100PF	10%	50V
C309	1-162-306-11	CERAMIC	0.01uF	30%	16V
C310	1-124-443-00	ELECT	100uF	20%	10V
C312	1-124-903-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C314	1-162-847-11	CERAMIC	0.047uF		25V
C316	1-124-903-11	ELECT	1uF	20%	50V
C319	1-162-851-11	CERAMIC	0.1uF		16V
C320	1-136-165-00	FILM	0.1uF	5%	50V
C321	1-124-478-11	ELECT	100uF	20%	25V
C322	1-124-478-11	ELECT	100uF	20%	25V
C323	1-162-851-11	CERAMIC	0.1uF		16V
C324	1-104-664-11	ELECT	47uF	20%	10V
C325	1-104-664-11	ELECT	47uF	20%	10V
C328	1-124-443-00	ELECT	100uF	20%	10V
C329	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-124-443-00	ELECT	100uF	20%	10V
C332	1-124-907-11	ELECT	10uF	20%	50V
C333	1-136-169-00	FILM	0.22uF	5%	50V
C334	1-162-847-11	CERAMIC	0.047uF		25V
C335	1-126-233-11	ELECT	22uF	20%	50V
C336	1-162-306-11	CERAMIC	0.01uF	30%	16V
C338	1-162-847-11	CERAMIC	0.047uF		25V
C345	1-162-306-11	CERAMIC	0.01uF	30%	16V
C361	1-161-055-00	CERAMIC	0.022uF	10%	50V
C362	1-124-907-11	ELECT	10uF	20%	50V
C363	1-162-851-11	CERAMIC	0.1uF		16V
C364	1-162-851-11	CERAMIC	0.1uF		16V
C365	1-126-966-11	ELECT	33uF	20%	25V
C366	1-104-666-11	ELECT	220uF	20%	6.3V
C367	1-124-443-00	ELECT	100uF	20%	10V
C375	1-136-165-00	FILM	0.1uF	5%	50V
C376	1-162-306-11	CERAMIC	0.01uF	30%	16V
C377	1-124-120-11	ELECT	220uF	20%	25V
C381	1-124-903-11	ELECT	1uF	20%	50V
C382-384					
	1-124-478-11	ELECT	100uF	20%	25V
C385	1-124-564-11	ELECT	4700uF	20%	25V
C386	1-124-564-11	ELECT	4700uF	20%	25V
C387	1-162-306-11	CERAMIC	0.01uF	30%	16V
C390	1-162-294-31	CERAMIC	0.001uF	10%	50V
C392	1-162-282-31	CERAMIC	100PF	10%	50V
C393	1-162-282-31	CERAMIC	100PF	10%	50V
C394	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C395	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C396-398					
	1-162-294-31	CERAMIC	0.001uF	10%	50V
C440-444					
	1-162-286-21	CERAMIC	220PF	10%	50V
C445	1-162-294-31	CERAMIC	0.001uF	10%	50V
C446	1-162-294-31	CERAMIC	0.001uF	10%	50V
C448-451					
	1-162-286-21	CERAMIC	220PF	10%	50V
C452-454					
	1-162-306-11	CERAMIC	0.01uF	30%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C455-457					
	1-162-282-31	CERAMIC	100PF	10%	50V
C458	1-162-294-31	CERAMIC	0.001uF	10%	50V
C459	1-162-294-31	CERAMIC	0.001uF	10%	50V
C460-463					
	1-162-286-21	CERAMIC	220PF	10%	50V
C464	1-162-282-31	CERAMIC	100PF	10%	50V
C465	1-162-282-31	CERAMIC	100PF	10%	50V
C466	1-126-335-11	ELECT	220uF	20%	10V
C467	1-162-306-11	CERAMIC	0.01uF	30%	16V
C468	1-162-306-11	CERAMIC	0.01uF	30%	16V
C470-474					
	1-162-282-31	CERAMIC	100PF	10%	50V
C475	1-162-306-11	CERAMIC	0.01uF	30%	16V
C476-478					
	1-162-282-31	CERAMIC	100PF	10%	50V
C479	1-162-306-11	CERAMIC	0.01uF	30%	16V
C480	1-162-306-11	CERAMIC	0.01uF	30%	16V
C801	1-124-636-00	ELECT	3300uF	20%	25V
C802	1-124-472-11	ELECT	470uF	20%	10V
C803	1-104-666-11	ELECT	220uF	20%	10V
C804-806					
	1-104-664-11	ELECT	47uF	20%	10V
C807	1-124-443-00	ELECT	100uF	20%	10V
C808	1-124-443-00	ELECT	100uF	20%	10V
C809	1-124-907-11	ELECT	10uF	20%	50V
C810	1-125-507-11	DOUBLE LAYERS	0.22F		5.5V
C811	1-162-306-11	CERAMIC	0.01uF	30%	16V
C813	1-162-306-11	CERAMIC	0.01uF	30%	16V
C817	1-104-664-11	ELECT	47uF	20%	10V
C818	1-162-306-11	CERAMIC	0.01uF	30%	16V
C819	1-124-443-00	ELECT	100uF	20%	10V
C820	1-162-306-11	CERAMIC	0.01uF	30%	16V
C821	1-162-306-11	CERAMIC	0.01uF	30%	16V
C822	1-124-443-00	ELECT	100uF	20%	10V
C823	1-124-907-11	ELECT	10uF	20%	50V
C824	1-124-907-11	ELECT	10uF	20%	50V
C825	1-162-306-11	CERAMIC	0.01uF	30%	16V
C826	1-162-306-11	CERAMIC	0.01uF	30%	16V
C827	1-102-961-00	CERAMIC	27PF	5%	50V
C828	1-102-961-00	CERAMIC	27PF	5%	50V
C829	1-102-965-00	CERAMIC	39PF	5%	50V
C830	1-102-965-00	CERAMIC	39PF	5%	50V
C831	1-162-306-11	CERAMIC	0.01uF	30%	16V
C832	1-102-959-00	CERAMIC	22PF	5%	50V
C833	1-102-960-00	CERAMIC	24PF	5%	50V
C834	1-124-903-11	ELECT	1uF	20%	50V
C835	1-124-478-11	ELECT	100uF	20%	25V
C836	1-162-294-31	CERAMIC	0.001uF	10%	50V
C837	1-162-294-31	CERAMIC	0.001uF	10%	50V
C840	1-162-306-11	CERAMIC	0.01uF	30%	16V
C841	1-162-306-11	CERAMIC	0.01uF	30%	16V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN301	1-766-980-71	CONNECTOR, FFC/FPC 7P	
CN302	1-573-455-11	PLUG, CONNECTOR (2.5MM) 4P	
* CN801	1-770-335-11	PIN, CONNECTOR (PC BOARD) 20P	
CN802	1-695-376-11	CONNECTOR, FFC/FPC 15P	
* CN803	1-766-998-71	CONNECTOR, FFC/FPC 25P	
* CN804	1-766-988-71	CONNECTOR, FFC/FPC 15P	
* CN805	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	
* CN902	1-564-779-11	PLUG, CONNECTOR (2.5MM) 6P	

< DIODE >

D301	8-719-991-33	DIODE	1SS133T-77
D302	8-719-991-33	DIODE	1SS133T-77
D303	8-719-991-33	DIODE	1SS133T-77
D304	8-719-991-33	DIODE	1SS133T-77
D381	8-719-991-33	DIODE	1SS133T-77
D382	8-719-991-33	DIODE	1SS133T-77
D383	8-719-991-33	DIODE	1SS133T-77
D384	8-719-924-13	DIODE	MTZJ-T-77-22B
D385	8-719-991-33	DIODE	1SS133T-77
D801	8-719-053-55	DIODE	DAM1SA27-T26
D804	8-719-991-33	DIODE	1SS133T-77
D805	8-719-991-33	DIODE	1SS133T-77
D808	8-719-991-33	DIODE	1SS133T-77
D810	8-719-991-33	DIODE	1SS133T-77

< IC >

IC301	8-759-208-08	IC	TC4052BPHB
IC302	8-759-332-64	IC	BA3837
IC304	8-759-332-62	IC	BH3854S
IC305	8-759-634-51	IC	M5218AP
IC307	8-759-332-63	IC	BA7760
IC310	8-759-932-33	IC	BU4066BC
IC312	8-759-190-89	IC	TDA7265
IC801	8-752-868-04	IC	CXP84332-013Q
IC802	8-759-339-23	IC	S-80737AL-Z
IC803	8-759-158-62	IC	TA78057S
IC804	8-759-080-77	IC	BA3933
IC805	8-759-604-36	IC	M5F78M08L

< JACK >

J301	1-573-914-11	JACK (MIX MIC)
J303	1-764-270-11	JACK, STEREO MINIATURE (DIA. 3.5) (LINE IN)
J305	1-568-267-11	JACK (∩ (HEADPHONE))

Ref. No.	Part No.	Description		Remark
		< COIL >		
L801	1-410-521-11	INDUCTOR	100uH	
L803	1-410-521-11	INDUCTOR	100uH	
		< LPF >		
LF101	1-239-503-11	FILTER, LOW PASS		
LF201	1-239-503-11	FILTER, LOW PASS		
		< IC LINK >		
⚠PS801	1-532-727-11	LINK, IC (ICP-N5) (0.25A)		
⚠PS802	1-532-727-11	LINK, IC (ICP-N5) (0.25A)		
		< TRANSISTOR >		
Q101	8-729-900-74	TRANSISTOR	DTC143TS	
Q103	8-729-900-74	TRANSISTOR	DTC143TS	
Q104	8-729-900-74	TRANSISTOR	DTC143TS	
Q105	8-729-900-74	TRANSISTOR	DTC143TS	
Q201	8-729-900-74	TRANSISTOR	DTC143TS	
Q203	8-729-900-74	TRANSISTOR	DTC143TS	
Q204	8-729-900-74	TRANSISTOR	DTC143TS	
Q205	8-729-900-74	TRANSISTOR	DTC143TS	
Q301	8-729-904-39	TRANSISTOR	DTC114TS	
Q302	8-729-900-74	TRANSISTOR	DTC143TS	
Q303	8-729-801-84	TRANSISTOR	2SB1013-4	
Q304	8-729-900-36	TRANSISTOR	DTC124ES	
Q305	8-729-900-36	TRANSISTOR	DTC124ES	
Q306	8-729-900-63	TRANSISTOR	DTA124ES	
Q307	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q308	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q309	8-729-904-39	TRANSISTOR	DTC114TS	
Q351	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q352	8-729-900-36	TRANSISTOR	DTC124ES	
Q802	8-729-902-80	TRANSISTOR	DTA114YS	
Q803	8-729-904-36	TRANSISTOR	DTC114YS	
Q805	8-729-901-57	TRANSISTOR	DTC143XS	
Q806	8-729-801-84	TRANSISTOR	2SB1013-4	
Q807	8-729-904-36	TRANSISTOR	DTC114YS	
Q808	8-729-902-80	TRANSISTOR	DTA114YS	
Q809	8-729-902-80	TRANSISTOR	DTA114YS	
Q810	8-729-902-80	TRANSISTOR	DTA114YS	
Q811	8-729-922-66	TRANSISTOR	2SC2410SN	
Q812	8-729-922-66	TRANSISTOR	2SC2410SN	
Q813	8-729-029-47	TRANSISTOR	DTA143ESA-TP	
Q814	8-729-900-36	TRANSISTOR	DTC124ES	
		< RESISTOR >		
R101	1-249-427-11	CARBON	6.8K 5%	1/4W

Ref. No.	Part No.	Description			Remark
R102	1-249-421-11	CARBON	2.2K	5%	1/4W
R103	1-249-425-11	CARBON	4.7K	5%	1/4W
R111	1-249-429-11	CARBON	10K	5%	1/4W
R115	1-249-437-11	CARBON	47K	5%	1/4W
R116	1-247-850-11	CARBON	6.2K	5%	1/4W
R117	1-249-435-11	CARBON	33K	5%	1/4W
R118	1-249-425-11	CARBON	4.7K	5%	1/4W
R119	1-249-429-11	CARBON	10K	5%	1/4W
R120	1-249-419-11	CARBON	1.5K	5%	1/4W
R121	1-249-427-11	CARBON	6.8K	5%	1/4W
R122	1-249-417-11	CARBON	1K	5%	1/4W
R141	1-247-883-00	CARBON	150K	5%	1/4W
R142	1-249-441-11	CARBON	100K	5%	1/4W
R143	1-249-441-11	CARBON	100K	5%	1/4W
R145	1-249-435-11	CARBON	33K	5%	1/4W
R146	1-247-887-00	CARBON	220K	5%	1/4W
R148	1-249-420-11	CARBON	1.8K	5%	1/4W
R181	1-249-431-11	CARBON	15K	5%	1/4W
R182	1-249-411-11	CARBON	330	5%	1/4W
R183	1-249-389-11	CARBON	4.7	5%	1/4W
R184	1-249-417-11	CARBON	1K	5%	1/4W
R185	1-249-409-11	CARBON	220	5%	1/4W
R186	1-249-417-11	CARBON	1K	5%	1/4W
R201	1-249-427-11	CARBON	6.8K	5%	1/4W
R202	1-249-421-11	CARBON	2.2K	5%	1/4W
R203	1-249-425-11	CARBON	4.7K	5%	1/4W
R211	1-249-429-11	CARBON	10K	5%	1/4W
R215	1-249-437-11	CARBON	47K	5%	1/4W
R216	1-247-850-11	CARBON	6.2K	5%	1/4W
R217	1-249-435-11	CARBON	33K	5%	1/4W
R218	1-249-425-11	CARBON	4.7K	5%	1/4W
R219	1-249-429-11	CARBON	10K	5%	1/4W
R220	1-249-419-11	CARBON	1.5K	5%	1/4W
R221	1-249-427-11	CARBON	6.8K	5%	1/4W
R222	1-249-417-11	CARBON	1K	5%	1/4W
R241	1-247-883-00	CARBON	150K	5%	1/4W
R242	1-249-441-11	CARBON	100K	5%	1/4W
R243	1-249-441-11	CARBON	100K	5%	1/4W
R245	1-249-435-11	CARBON	33K	5%	1/4W
R246	1-247-887-00	CARBON	220K	5%	1/4W
R248	1-249-420-11	CARBON	1.8K	5%	1/4W
R281	1-249-431-11	CARBON	15K	5%	1/4W
R282	1-249-411-11	CARBON	330	5%	1/4W
R283	1-249-389-11	CARBON	4.7	5%	1/4W
R284	1-249-417-11	CARBON	1K	5%	1/4W
R285	1-249-409-11	CARBON	220	5%	1/4W
R286	1-249-417-11	CARBON	1K	5%	1/4W
R301	1-249-419-11	CARBON	1.5K	5%	1/4W
R302	1-249-441-11	CARBON	100K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

MAIN **MODE**

Ref. No.	Part No.	Description				Remark
R305	1-249-431-11	CARBON	15K	5%	1/4W	
R306	1-249-411-11	CARBON	330	5%	1/4W	
R309	1-247-807-31	CARBON	100	5%	1/4W	
R310	1-249-441-11	CARBON	100K	5%	1/4W	
R311	1-249-441-11	CARBON	100K	5%	1/4W	
R312	1-249-423-11	CARBON	3.3K	5%	1/4W	
R314	1-249-417-11	CARBON	1K	5%	1/4W	
R315	1-249-417-11	CARBON	1K	5%	1/4W	
R316	1-249-429-11	CARBON	10K	5%	1/4W	
R317	1-249-429-11	CARBON	10K	5%	1/4W	
R318	1-249-423-11	CARBON	3.3K	5%	1/4W	
R319	1-249-419-11	CARBON	1.5K	5%	1/4W	
R320	1-249-423-11	CARBON	3.3K	5%	1/4W	
R321	1-247-807-31	CARBON	100	5%	1/4W	
R324	1-247-807-31	CARBON	100	5%	1/4W	
R327	1-249-437-11	CARBON	47K	5%	1/4W	
R328	1-249-421-11	CARBON	2.2K	5%	1/4W	
R329	1-249-415-11	CARBON	680	5%	1/4W	
R330	1-249-441-11	CARBON	100K	5%	1/4W	
R331	1-249-441-11	CARBON	100K	5%	1/4W	
R332	1-249-418-11	CARBON	1.2K	5%	1/4W	
R335	1-247-807-31	CARBON	100	5%	1/4W	
R336	1-249-429-11	CARBON	10K	5%	1/4W	
R337	1-249-429-11	CARBON	10K	5%	1/4W	
R375-379						
	1-249-429-11	CARBON	10K	5%	1/4W	
R380	1-247-903-00	CARBON	1M	5%	1/4W	
R381	1-249-407-11	CARBON	150	5%	1/4W	
R382	1-249-431-11	CARBON	15K	5%	1/4W	
R383	1-249-425-11	CARBON	4.7K	5%	1/4W	
R384	1-249-425-11	CARBON	4.7K	5%	1/4W	
R385	1-247-887-00	CARBON	220K	5%	1/4W	
R386	1-249-409-11	CARBON	220	5%	1/4W	
R387	1-247-903-00	CARBON	1M	5%	1/4W	
R388	1-249-429-11	CARBON	10K	5%	1/4W	
R389	1-249-409-11	CARBON	220	5%	1/4W	
R390	1-247-903-00	CARBON	1M	5%	1/4W	
R391	1-247-807-31	CARBON	100	5%	1/4W	
R392	1-249-417-11	CARBON	1K	5%	1/4W	
R393	1-249-425-11	CARBON	4.7K	5%	1/4W	
R440-443						
	1-249-417-11	CARBON	1K	5%	1/4W	
R444-446						
	1-249-429-11	CARBON	10K	5%	1/4W	
R448-451						
	1-249-421-11	CARBON	2.2K	5%	1/4W	
R452	1-249-429-11	CARBON	10K	5%	1/4W	
R453-457						
	1-249-417-11	CARBON	1K	5%	1/4W	
R458	1-249-429-11	CARBON	10K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R459	1-249-417-11	CARBON	1K	5%	1/4W	
R460	1-249-429-11	CARBON	10K	5%	1/4W	
R461-466						
	1-249-417-11	CARBON	1K	5%	1/4W	
R467-470						
	1-249-421-11	CARBON	2.2K	5%	1/4W	
R471	1-249-417-11	CARBON	1K	5%	1/4W	
R472	1-249-417-11	CARBON	1K	5%	1/4W	
R473	1-249-429-11	CARBON	10K	5%	1/4W	
R475	1-249-429-11	CARBON	10K	5%	1/4W	
R476	1-249-429-11	CARBON	10K	5%	1/4W	
R478	1-249-417-11	CARBON	1K	5%	1/4W	
R479	1-249-437-11	CARBON	47K	5%	1/4W	
R480	1-249-429-11	CARBON	10K	5%	1/4W	
R481-483						
	1-249-417-11	CARBON	1K	5%	1/4W	
R484-494						
	1-249-429-11	CARBON	10K	5%	1/4W	
R496-499						
	1-249-429-11	CARBON	10K	5%	1/4W	
R805	1-249-431-11	CARBON	15K	5%	1/4W	
R809-811						
	1-249-425-11	CARBON	4.7K	5%	1/4W	
R812	1-249-421-11	CARBON	2.2K	5%	1/4W	
R813	1-249-429-11	CARBON	10K	5%	1/4W	
R814	1-249-417-11	CARBON	1K	5%	1/4W	
R815	1-249-429-11	CARBON	10K	5%	1/4W	
R816	1-249-417-11	CARBON	1K	5%	1/4W	
R817-820						
	1-249-425-11	CARBON	4.7K	5%	1/4W	
R821-823						
	1-249-417-11	CARBON	1K	5%	1/4W	
R824	1-249-441-11	CARBON	100K	5%	1/4W	
R825	1-249-421-11	CARBON	2.2K	5%	1/4W	
R826	1-249-441-11	CARBON	100K	5%	1/4W	
		< SWITCH >				
S301	1-692-977-11	SWITCH, KEY BOARD (RESET)				
		< VIBRATOR >				
X801	1-760-105-11	VIBRATOR, CRYSTAL (32.768MHz)				
X802	1-579-901-11	OSCILLATOR, CERAMIC (4.19MHz)				

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* 1-655-625-11 MODE BOARD

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< SWITCH >

S666 1-762-010-11 SWITCH, LEVER (MODE 1)
S667 1-762-010-11 SWITCH, LEVER (MODE 2)

Ref. No.	Part No.	Description			Remark
S668	1-762-287-11	SWITCH, PUSH LEVER (M. STOCK)			
S669	1-762-287-11	SWITCH, PUSH LEVER (MODE 3)			
**********					
*	1-655-815-21	POWER BOARD			
		**********			
	1-533-233-11	HOLDER, FUSE			
		< CAPACITOR >			
C901-904					
	1-161-494-00	CERAMIC	0.022uF		25V
C905-910					
	1-136-165-00	FILM	0.1uF	5%	50V
C914-918					
	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
* CN901	1-564-779-11	PLUG, CONNECTOR (2.5MM) 6P			
		< DIODE >			
D901	8-719-970-02	DIODE 1SR139-400			
D902	8-719-970-02	DIODE 1SR139-400			
D903	8-719-970-02	DIODE 1SR139-400			
D904	8-719-970-02	DIODE 1SR139-400			
D905	8-719-025-03	DIODE RBA-402-SL			
		< FUSE >			
⚠F902-904					
	1-532-237-00	FUSE (3.15A/250V)			
		< AC INLET >			
⚠J901	1-526-838-11	INLET, AC 2P (AC IN ~)			
		< TRANSFORMER >			
⚠T901	1-429-157-11	TRANSFORMER, POWER			
**********					
*	A-3305-303-A	RADIO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-162-294-31	CERAMIC	0.001uF	10%	50V
C2	1-162-306-11	CERAMIC	0.01uF	30%	16V
C3	1-102-960-00	CERAMIC	24PF	5%	50V
C4	1-162-203-31	CERAMIC	15PF	5%	50V
C5	1-161-494-00	CERAMIC	0.022uF		25V
C6	1-161-494-00	CERAMIC	0.022uF		25V
C7	1-161-055-00	CERAMIC	0.022uF	10%	50V
C8	1-162-195-31	CERAMIC	4.7PF	10%	50V
C9	1-102-973-00	CERAMIC	100PF	5%	50V
C10	1-102-823-00	CERAMIC	430PF	5%	50V
C11	1-162-199-31	CERAMIC	10PF	5%	50V
C12	1-136-013-11	FILM	360PF	5%	50V
C14	1-164-159-21	CERAMIC	0.1uF		50V
C15	1-162-306-11	CERAMIC	0.01uF	30%	16V
C16	1-126-963-11	ELECT	4.7uF	20%	50V
C17	1-162-288-31	CERAMIC	330PF	10%	50V
C18	1-162-306-11	CERAMIC	0.01uF	30%	16V
C19	1-124-907-11	ELECT	10uF	20%	50V
C20	1-161-061-11	CERAMIC	0.068uF	10%	50V
C21	1-161-024-00	CERAMIC	0.082uF	10%	25V
C22	1-161-024-00	CERAMIC	0.082uF	10%	25V
C23	1-161-052-00	CERAMIC	0.012uF	10%	50V
C24	1-161-052-00	CERAMIC	0.012uF	10%	50V
C25	1-162-306-11	CERAMIC	0.01uF	30%	16V
C26	1-162-306-11	CERAMIC	0.01uF	30%	16V
C27	1-124-443-00	ELECT	100uF	20%	10V
C28	1-102-518-11	CERAMIC	33PF	5%	50V
C29	1-162-199-31	CERAMIC	10PF	5%	50V
C30-33					
	1-162-306-11	CERAMIC	0.01uF	30%	16V
C34-36					
	1-162-294-31	CERAMIC	0.001uF	10%	50V
C37	1-124-907-11	ELECT	10uF	20%	50V
C38	1-162-306-11	CERAMIC	0.01uF	30%	16V
C39	1-124-907-11	ELECT	10uF	20%	50V
C40	1-162-306-11	CERAMIC	0.01uF	30%	16V
C41	1-136-177-00	FILM	1uF	5%	50V
C42	1-130-483-00	MYLAR	0.01uF	5%	50V
C44	1-126-963-11	ELECT	4.7uF	20%	50V
C45	1-126-963-11	ELECT	4.7uF	20%	50V
C46	1-124-907-11	ELECT	10uF	20%	50V
C52	1-162-306-11	CERAMIC	0.01uF	30%	16V
C53	1-162-306-11	CERAMIC	0.01uF	30%	16V
C55	1-162-306-11	CERAMIC	0.01uF	30%	16V
C56	1-162-306-11	CERAMIC	0.01uF	30%	16V
C59	1-162-290-31	CERAMIC	470PF	10%	50V
C60	1-162-282-31	CERAMIC	100PF	10%	50V
C61	1-162-306-11	CERAMIC	0.01uF	30%	16V
C63	1-162-282-31	CERAMIC	100PF	10%	50V
C64	1-162-294-31	CERAMIC	0.001uF	10%	50V
C66	1-162-282-31	CERAMIC	100PF	10%	50V
C68	1-162-306-11	CERAMIC	0.01uF	30%	16V
C69	1-162-215-31	CERAMIC	47PF	5%	50V
C70	1-162-294-21	CERAMIC	0.001uF	10%	50V
C71	1-162-294-31	CERAMIC	0.001uF	10%	50V
C73	1-162-294-21	CERAMIC	0.001uF	10%	50V
C76	1-162-294-21	CERAMIC	0.001uF	10%	50V

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		< FILTER >	
CF1-3			
	1-760-468-11	FILTER, CERAMIC	
CF4	1-579-762-11	VIBRATOR, CERAMIC	
		< ENCAPSULATED COMPONENT >	
CFT1	1-239-173-11	ENCAPSULATED COMPONENT	
		< CONNECTOR >	
* CN1	1-766-988-71	CONNECTOR, FFC/FPC 15P	
		< TRIMMER >	
CT1	1-141-411-11	CAP, ADJ 20PF	
CT2	1-141-411-11	CAP, ADJ 20PF	
CT3	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF	
CT4	1-141-486-11	CAP, ADJ 10PF	
CT5	1-141-411-11	CAP, ADJ 20PF	
		< DIODE >	
D1	8-719-991-33	DIODE 1SS133T-77	
D2	8-719-991-33	DIODE 1SS133T-77	
D3	8-719-980-65	DIODE SVC203RA-V	
D4	8-719-980-65	DIODE SVC203RA-V	
D5	8-719-050-70	DIODE KV1520NT	
		< BPF >	
FL1	1-236-022-11	FILTER, BAND PASS	
		< IC >	
IC1	8-759-188-84	IC TA2008N	
IC2	8-759-290-61	IC BU2615S	
		< COIL >	
L1	1-409-905-11	COIL, FM RF	
L2	1-409-904-11	COIL, FM OSC	
L3	1-501-752-11	ANTENNA, FERRITE-ROD (MW/LW)	
L4	1-411-199-11	COIL, MW/LW OSC	
L6	1-410-336-11	INDUCTOR 220uH	
L10	1-249-409-11	CARBON 220 5% 1/4W	
L11	1-410-517-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q1	8-729-119-32	TRANSISTOR 2SK193-E	
Q2	8-729-922-66	TRANSISTOR 2SC2410SN	
Q3	8-729-922-66	TRANSISTOR 2SC2410SN	
Q4	8-729-905-50	TRANSISTOR DTC343TS	
Q5	8-729-178-63	TRANSISTOR 2SC2786-K	

Ref. No.	Part No.	Description	Remark
Q6	8-729-922-66	TRANSISTOR 2SC2410SN	
Q9	8-729-904-36	TRANSISTOR DTC114YS	
Q10	8-729-904-36	TRANSISTOR DTC114YS	
Q11	8-729-904-36	TRANSISTOR DTC114YS	
Q12	8-729-904-36	TRANSISTOR DTC114YS	
Q13	8-729-012-83	TRANSISTOR 2SK679A	
Q15	8-729-904-36	TRANSISTOR DTC114YS	
Q16	8-729-904-36	TRANSISTOR DTC114YS	
Q17	8-729-902-80	TRANSISTOR DTA114YS	
Q18	8-729-900-61	TRANSISTOR DTA114ES	
Q19	8-729-900-80	TRANSISTOR DTC114ES	
Q21	8-729-900-61	TRANSISTOR DTA114ES	
Q22	8-729-900-61	TRANSISTOR DTA114ES	
Q23	8-729-922-66	TRANSISTOR 2SC2410SN	
		< RESISTOR >	
R1	1-247-887-00	CARBON 220K 5% 1/4W	
R2	1-249-441-11	CARBON 100K 5% 1/4W	
R3	1-249-431-11	CARBON 15K 5% 1/4W	
R4	1-249-413-11	CARBON 470 5% 1/4W	
R5	1-249-417-11	CARBON 1K 5% 1/4W	
R6	1-249-425-11	CARBON 4.7K 5% 1/4W	
R7	1-249-425-11	CARBON 4.7K 5% 1/4W	
R9	1-249-425-11	CARBON 4.7K 5% 1/4W	
R10	1-249-429-11	CARBON 10K 5% 1/4W	
R11	1-247-887-00	CARBON 220K 5% 1/4W	
R12	1-249-425-11	CARBON 4.7K 5% 1/4W	
R13	1-247-807-31	CARBON 100 5% 1/4W	
R14	1-249-425-11	CARBON 4.7K 5% 1/4W	
R19	1-249-421-11	CARBON 2.2K 5% 1/4W	
R20	1-249-433-11	CARBON 22K 5% 1/4W	
R21	1-247-807-31	CARBON 100 5% 1/4W	
R22-25			
	1-249-429-11	CARBON 10K 5% 1/4W	
R26	1-249-417-11	CARBON 1K 5% 1/4W	
R27	1-249-417-11	CARBON 1K 5% 1/4W	
R28	1-249-429-11	CARBON 10K 5% 1/4W	
R29	1-249-429-11	CARBON 10K 5% 1/4W	
R34	1-249-415-11	CARBON 680 5% 1/4W	
R35	1-249-412-11	CARBON 390 5% 1/4W	
R36	1-249-437-11	CARBON 47K 5% 1/4W	
R37	1-249-417-11	CARBON 1K 5% 1/4W	
R38	1-249-427-11	CARBON 6.8K 5% 1/4W	
R39	1-249-429-11	CARBON 10K 5% 1/4W	
R41	1-249-433-11	CARBON 22K 5% 1/4W	
R42	1-249-437-11	CARBON 47K 5% 1/4W	
R43	1-249-437-11	CARBON 47K 5% 1/4W	
R44	1-249-429-11	CARBON 10K 5% 1/4W	
R49	1-249-421-11	CARBON 2.2K 5% 1/4W	

Ref. No.	Part No.	Description			Remark
R50	1-249-417-11	CARBON	1K	5%	1/4W
R51-53					
	1-249-441-11	CARBON	100K	5%	1/4W
R54	1-249-413-11	CARBON	470	5%	1/4W
R55	1-249-437-11	CARBON	47K	5%	1/4W
R56	1-249-411-11	CARBON	330	5%	1/4W
R57	1-249-397-11	CARBON	22	5%	1/4W
R58	1-247-883-00	CARBON	150K	5%	1/4W
R59	1-249-421-11	CARBON	2.2K	5%	1/4W
R60	1-249-407-11	CARBON	150	5%	1/4W
R61	1-249-427-11	CARBON	6.8K	5%	1/4W
R62	1-249-434-11	CARBON	27K	5%	1/4W
R63	1-249-427-11	CARBON	6.8K	5%	1/4W
R64	1-249-434-11	CARBON	27K	5%	1/4W
R70	1-247-887-00	CARBON	220K	5%	1/4W
R71	1-249-427-11	CARBON	6.8K	5%	1/4W
		< VIBRATOR >			
X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)			
**********					
*	1-641-566-21	RELAY (RP) BOARD			
		**********			
*	3-380-110-01	HOLDER, PHOTO			
		< CONNECTOR >			
CN691	1-565-937-11	SOCKET, CONNECTOR 13P			
* CN691	1-695-374-31	PIN, CONNECTOR (PC BOARD) 13P			
* CN692	1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P			
		< DIODE >			
D691	8-719-991-33	DIODE 1SS133T-77			
D692	8-719-991-33	DIODE 1SS133T-77			
		< PHOTO INTERRUPTER >			
PH691	8-719-710-03	PHOTO INTERRUPTER NJL5165K-B			
PH691	8-719-939-11	PHOTO INTERRUPTER GP-2S09-B			
		< SWITCH >			
S691	1-572-248-11	SWITCH, LEAF (HALF)			
S692	1-572-248-11	SWITCH, LEAF (CrO2 (TYPE II))			
S693	1-572-248-11	SWITCH, LEAF (METAL (TYPE IV))			
S694	1-572-248-11	SWITCH, LEAF (ERASE PROOF (SIDE A))			
S695	1-572-248-11	SWITCH, LEAF (ERASE PROOF (SIDE B))			
S696	1-692-163-11	SWITCH, MICRO (STOP)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-657-240-21	SP-L BOARD			
		**********			
		< CAPACITOR >			
C198	1-123-545-11	ELECT	2.7uF	20%	50V
C199	1-136-165-00	FILM	0.1uF	5%	50V
**********					
*	1-657-241-21	SP-R BOARD			
		**********			
		< CAPACITOR >			
C298	1-123-545-11	ELECT	2.7uF	20%	50V
C299	1-136-165-00	FILM	0.1uF	5%	50V
**********					
*	1-655-812-21	SW BOARD			
		********			
		< DIODE >			
D403	8-719-047-57	LED SLA-362MT3F-A47 (1 (DISC SELECT))			
D404	8-719-047-57	LED SLA-362MT3F-A47 (2 (DISC SELECT))			
D405	8-719-047-57	LED SLA-362MT3F-A47 (3 (DISC SELECT))			
D406	8-719-047-57	LED SLA-362MT3F-A47 (3 (DISC SELECT))			
D407	8-719-047-57	LED SLA-362MT3F-A47 (2 (DISC SELECT))			
D408	8-719-047-57	LED SLA-362MT3F-A47 (1 (DISC SELECT))			
		< TRANSISTOR >			
Q401	8-729-904-36	TRANSISTOR DTC114YS			
Q402	8-729-904-36	TRANSISTOR DTC114YS			
Q403	8-729-904-36	TRANSISTOR DTC114YS			
		< RESISTOR >			
R405	1-249-423-11	CARBON	3.3K	5%	1/4W
R406	1-249-427-11	CARBON	6.8K	5%	1/4W
R407	1-249-432-11	CARBON	18K	5%	1/4W
R408	1-249-415-11	CARBON	680	5%	1/4W
R409	1-249-416-11	CARBON	820	5%	1/4W
R410	1-249-418-11	CARBON	1.2K	5%	1/4W
R411	1-249-420-11	CARBON	1.8K	5%	1/4W
R412	1-249-423-11	CARBON	3.3K	5%	1/4W
R413	1-249-427-11	CARBON	6.8K	5%	1/4W
R414	1-249-432-11	CARBON	18K	5%	1/4W
R415	1-249-415-11	CARBON	680	5%	1/4W
R416	1-249-416-11	CARBON	820	5%	1/4W
R417	1-249-418-11	CARBON	1.2K	5%	1/4W
R418	1-249-420-11	CARBON	1.8K	5%	1/4W
R419	1-249-423-11	CARBON	3.3K	5%	1/4W
R434	1-249-413-11	CARBON	470	5%	1/4W

SW TC

Ref. No.	Part No.	Description			Remark
R435	1-249-413-11	CARBON	470	5%	1/4W
R436	1-249-412-11	CARBON	390	5%	1/4W
R437	1-249-412-11	CARBON	390	5%	1/4W
R438	1-249-411-11	CARBON	330	5%	1/4W
R439	1-249-411-11	CARBON	330	5%	1/4W
		< SWITCH >			
S405	1-572-199-11	SWITCH, KEY BOARD (⏭ /+ (TUNING))			
S406	1-572-199-11	SWITCH, KEY BOARD (⏮ /- (TUNING))			
S407	1-572-199-11	SWITCH, KEY BOARD (⏩)			
S408	1-572-199-11	SWITCH, KEY BOARD (⏪)			
S409	1-572-199-11	SWITCH, KEY BOARD (PRESET -(RADIO))			
S410	1-572-199-11	SWITCH, KEY BOARD (BAND (RADIO))			
S411	1-572-199-11	SWITCH, KEY BOARD (PRESET +(RADIO))			
S412	1-572-199-11	SWITCH, KEY BOARD (▷ (TAPE))			
S413	1-572-199-11	SWITCH, KEY BOARD (□ (TAPE))			
S414	1-572-199-11	SWITCH, KEY BOARD (◁ (TAPE))			
S415	1-572-199-11	SWITCH, KEY BOARD (▷⏸ (CD))			
S416	1-572-199-11	SWITCH, KEY BOARD (□ (CD))			
S417	1-572-199-11	SWITCH, KEY BOARD (START (HIGH SPEED DUBBING))			
S418	1-572-199-11	SWITCH, KEY BOARD (●/⏸)			
S419	1-572-199-11	SWITCH, KEY BOARD (1 (DISC SELECT))			
S420	1-572-199-11	SWITCH, KEY BOARD (2 (DISC SELECT))			
S421	1-572-199-11	SWITCH, KEY BOARD (3 (DISC SELECT))			
S422	1-572-199-11	SWITCH, KEY BOARD (OPEN/CLOSE ⏏)			
**********					
*	A-3305-016-A	TC BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C103	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C104	1-126-963-11	ELECT	4.7uF	20%	50V
C106	1-124-443-00	ELECT	100uF	20%	10V
C107	1-130-487-00	MYLAR	0.022uF	5%	50V
C119	1-126-963-11	ELECT	4.7uF	20%	50V
C120	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C121	1-126-963-11	ELECT	4.7uF	20%	50V
C122	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C123	1-110-647-11	CERAMIC CHIP	150PF	5%	200V
C124	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C125	1-124-907-11	ELECT	10uF	20%	50V
C131	1-126-963-11	ELECT	4.7uF	20%	50V
C132	1-163-002-11	CERAMIC CHIP	270PF	10%	50V
C134	1-130-475-00	MYLAR	0.0022uF	5%	50V
C135	1-130-479-00	MYLAR	0.0047uF	5%	50V
C136	1-126-963-11	ELECT	4.7uF	20%	50V
C203	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C204	1-126-963-11	ELECT	4.7uF	20%	50V

Ref. No.	Part No.	Description			Remark
C206	1-124-443-00	ELECT	100uF	20%	10V
C207	1-130-487-00	MYLAR	0.022uF	5%	50V
C219	1-126-963-11	ELECT	4.7uF	20%	50V
C220	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C221	1-126-963-11	ELECT	4.7uF	20%	50V
C222	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C223	1-110-647-11	CERAMIC CHIP	150PF	5%	200V
C224	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C225	1-124-907-11	ELECT	10uF	20%	50V
C231	1-126-963-11	ELECT	4.7uF	20%	50V
C232	1-163-002-11	CERAMIC CHIP	270PF	10%	50V
C234	1-130-475-00	MYLAR	0.0022uF	5%	50V
C235	1-130-479-00	MYLAR	0.0047uF	5%	50V
C236	1-126-963-11	ELECT	4.7uF	20%	50V
C301	1-124-443-00	ELECT	100uF	20%	10V
C302	1-126-963-11	ELECT	4.7uF	20%	50V
C304-306	1-124-907-11	ELECT	10uF	20%	50V
C307	1-124-443-00	ELECT	100uF	20%	10V
C308	1-126-963-11	ELECT	4.7uF	20%	50V
C309	1-124-443-00	ELECT	100uF	20%	10V
C311	1-124-907-11	ELECT	10uF	20%	50V
C313	1-124-443-00	ELECT	100uF	20%	10V
C316	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C318	1-124-443-00	ELECT	100uF	20%	10V
C319	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C320	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C321	1-130-848-00	FILM	0.0082uF	5%	100V
C322	1-137-385-11	FILM	470PF	5%	100V
C323	1-137-387-11	FILM	0.001uF	5%	100V
C324	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C325	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C331	1-126-233-11	ELECT	22uF	20%	50V
C332	1-124-443-00	ELECT	100uF	20%	10V
C333	1-126-963-11	ELECT	4.7uF	20%	50V
C334	1-136-175-00	FILM	0.68uF	5%	50V
C335	1-136-175-00	FILM	0.68uF	5%	50V
C336	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C337	1-124-925-11	ELECT	2.2uF	20%	100V
C338	1-124-903-11	ELECT	1uF	20%	50V
C339	1-124-907-11	ELECT	10uF	20%	50V
C343	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C344	1-126-963-11	ELECT	4.7uF	20%	50V
C601	1-124-907-11	ELECT	10uF	20%	50V
C602	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C603	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C606	1-124-907-11	ELECT	10uF	20%	50V
C609	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C610	1-126-233-11	ELECT	22uF	20%	50V

Ref. No.	Part No.	Description			Remark
C611-613					
	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C614	1-124-903-11	ELECT	1uF	20%	50V
		< CONNECTOR >			
* CN302	1-695-017-11	HOUSING, CONNECTOR 7P			
CN303	1-695-368-31	CONNECTOR, FFC/FPC 7P			
CN304	1-691-074-11	HOUSING, CONNECTOR 15P			
CN306	1-691-072-11	HOUSING, CONNECTOR 13P			
		< IC >			
IC301	8-759-143-54	IC uPC1330HA			
IC302	8-759-339-25	IC BA3442BKS			
IC305	8-752-032-14	IC CXA1102M			
IC601	8-759-066-26	IC M66010FP			
		< COIL >			
L102	1-410-776-11	INDUCTOR	12mH		
L202	1-410-776-11	INDUCTOR	12mH		
L301	1-410-482-31	INDUCTOR	100uH		
		< IC LINK >			
⚠PS601	1-576-123-21	LINK, IC (CCP2E20) (0.8A)			
		< TRANSISTOR >			
Q303	8-729-101-07	TRANSISTOR	2SB798-DL		
Q305	8-729-800-34	TRANSISTOR	2SC3070		
Q308	8-729-105-37	TRANSISTOR	2SC3360-N16		
Q309	8-729-105-37	TRANSISTOR	2SC3360-N16		
Q310	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q311	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q603	8-729-901-46	TRANSISTOR	DTA114YK		
Q604	8-729-901-46	TRANSISTOR	DTA114YK		
Q615	8-729-900-52	TRANSISTOR	DTC114YK		
Q618	8-729-202-56	TRANSISTOR	2SA950-Y		
Q619	8-729-902-99	TRANSISTOR	DTC114TK		
Q620	8-729-116-57	TRANSISTOR	2SB1068-K		
Q621	8-729-900-52	TRANSISTOR	DTC114YK		
Q622	8-729-901-46	TRANSISTOR	DTA114YK		
Q624	8-729-901-03	TRANSISTOR	DTC144WK		
Q629	8-729-920-31	TRANSISTOR	DTC343TK		
		< RESISTOR >			
R102	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R103	1-216-019-00	METAL CHIP	56	5%	1/10W
R112	1-216-075-00	METAL CHIP	12K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-093-00	METAL CHIP	68K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R117	1-216-075-00	METAL CHIP	12K	5%	1/10W
R118	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R120	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R121	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R202	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R203	1-216-019-00	METAL CHIP	56	5%	1/10W
R212	1-216-075-00	METAL CHIP	12K	5%	1/10W
R213	1-216-073-00	METAL CHIP	10K	5%	1/10W
R216	1-216-093-00	METAL CHIP	68K	5%	1/10W
R217	1-216-075-00	METAL CHIP	12K	5%	1/10W
R218	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R220	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R221	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R301	1-216-025-00	METAL GLAZE	100	5%	1/10W
R302	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R304	1-216-025-00	METAL GLAZE	100	5%	1/10W
R305	1-216-083-00	METAL CHIP	27K	5%	1/10W
R306	1-216-085-00	METAL CHIP	33K	5%	1/10W
R307	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R308	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R311	1-218-179-11	METAL GLAZE	10M	5%	1/10W
R312	1-216-073-00	METAL CHIP	10K	5%	1/10W
R313	1-216-025-00	METAL GLAZE	100	5%	1/10W
R314	1-216-088-00	METAL CHIP	43K	5%	1/10W
R315	1-216-073-00	METAL CHIP	10K	5%	1/10W
R316	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R317	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R320	1-216-025-00	METAL GLAZE	100	5%	1/10W
R321	1-216-085-00	METAL CHIP	33K	5%	1/10W
R325	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R326	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R330	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R332	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R333	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R335	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R337	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R343	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R344	1-216-081-00	METAL CHIP	22K	5%	1/10W
R345	1-216-077-00	METAL CHIP	15K	5%	1/10W
R346	1-216-077-00	METAL CHIP	15K	5%	1/10W
R347	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R348	1-216-073-00	METAL CHIP	10K	5%	1/10W
R601-604					
	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R620	1-216-073-00	METAL CHIP	10K	5%	1/10W
R622-624					
	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R625	1-216-041-00	METAL CHIP	470	5%	1/10W
R627	1-216-073-00	METAL CHIP	10K	5%	1/10W

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

TC

Ref. No.	Part No.	Description			Remark
R628	1-216-037-00	METAL CHIP	330	5%	1/10W
R629	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R630	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R633	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R634	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R635	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R636	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R637	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R638	1-216-073-00	METAL CHIP	10K	5%	1/10W
R639	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R640	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R641	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R642	1-216-073-00	METAL CHIP	10K	5%	1/10W
R643	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R644	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R647	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R649	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R650	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R651	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R653	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R654	1-216-073-00	METAL CHIP	10K	5%	1/10W
R655	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R656	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R657	1-216-073-00	METAL CHIP	10K	5%	1/10W

< VARIABLE RESISTOR >

RV102	1-238-019-11	RES, ADJ, CARBON 47K
RV103	1-238-019-11	RES, ADJ, CARBON 47K
RV104	1-238-019-11	RES, ADJ, CARBON 47K
RV202	1-238-019-11	RES, ADJ, CARBON 47K
RV203	1-238-019-11	RES, ADJ, CARBON 47K
RV204	1-238-019-11	RES, ADJ, CARBON 47K
RV603	1-241-763-11	RES, ADJ, CARBON 4.7K
RV604	1-241-763-11	RES, ADJ, CARBON 4.7K

< TRANSFORMER >

T301	1-433-391-11	TRANSFORMER, BIAS OSCILLATOR

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
62	1-769-538-11	WIRE, PARALLEL (FFC) (25 CORE)	
63	1-769-539-11	WIRE, PARALLEL (FFC) (15 CORE)	
111	1-765-012-11	WIRE, PARALLEL (FFC) (13 CORE)	
113	1-769-540-11	WIRE, PARALLEL (FFC) (15 CORE)	
114	1-775-041-11	WIRE, PARALLEL (FFC) (7 CORE)	
259	1-452-759-11	MAGNET	
⚠351	8-848-367-11	PICK-UP, OPTICAL KSS-213B/K-N	
ANT1	1-501-378-11	ANTENNA, TELESCOPIC	
HRP301	1-543-991-11	HEAD, MAGNETIC (REC/PB/ERASE)	
M651	X-3370-743-1	MOTOR ASSY (FLOOR UP/DOWN)	
M652	X-3370-743-1	MOTOR ASSY (TRAY LOAD)	
M691	A-3263-138-A	MOTOR ASSY	
M701	X-2625-769-1	MOTOR GEAR ASSY (SLED)	
M702	X-2625-877-1	MOTOR ASSY, SPINDLE	
PM691	1-454-595-11	SOLENOID, PLUNGER	
SP101	1-504-458-11	SPEAKER (8CM) (L-CH)	
SP102	1-504-707-11	SPEAKER (5CM) (L-CH)	
SP201	1-504-458-11	SPEAKER (8CM) (R-CH)	
SP202	1-504-707-11	SPEAKER (5CM) (R-CH)	

****

ACCESSORIES & PACKING MATERIALS

****

⚠	1-696-820-21	CORD, POWER (AEP)
⚠	1-751-214-11	CORD, POWER (UK)
	3-798-589-11	MANUAL, INSTRUCTION (ENGLISH, GERMAN)
	3-798-589-21	MANUAL, INSTRUCTION (FRENCH, SPANISH, ITALIAN) (AEP)
	3-798-589-31	MANUAL, INSTRUCTION (DUTCH, SWEDISH, PORTUGUESE) (AEP)
*	3-922-866-01	CUSHION (TOP)
*	3-922-867-01	CUSHION (BOTTOM)
*	3-926-982-01	INDIVIDUAL CARTON
	4-973-430-01	LID, REMOCON BATTERY (FOR RMT-C5000A)
	8-916-837-90	REMOCON RMT-C5000A//M SET

****

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark

****
HARDWARE LIST
****

#1	7-685-647-79	SCREW, TAPPING +BV 3X10	
#2	7-621-773-95	SCREW +B 2.6X6	
#3	7-682-548-09	SCREW +B 3X8	
#4	7-627-553-97	PRECISION SCREW +P 2X8 TYPE 3	
#5	7-685-134-19	SCREW +P 2.6X8 TYPE2 SLIT	
#6	7-624-102-04	STOP RING 1.5, TYPE -E	
#7	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#8	7-671-112-11	BALL, STEEL	
#9	7-621-775-08	SCREW +P 2.6X3	
#10	7-621-255-15	SCREW +P 2X3	
#11	7-621-255-45	SCREW +P 2X6	
#12	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3	

9-960-240-11

Sony Corporation
Consumer A & V Products Company
Personal A & V Products Div.

English
95H047544-1
Printed in Germany
© 1995. 8

Published by Home A & V Products Div.
Quality Engineering Dept.

ZSX-5000

SONY®
SERVICE MANUAL

AEP Model
UK Model

SUPPLEMENT-1

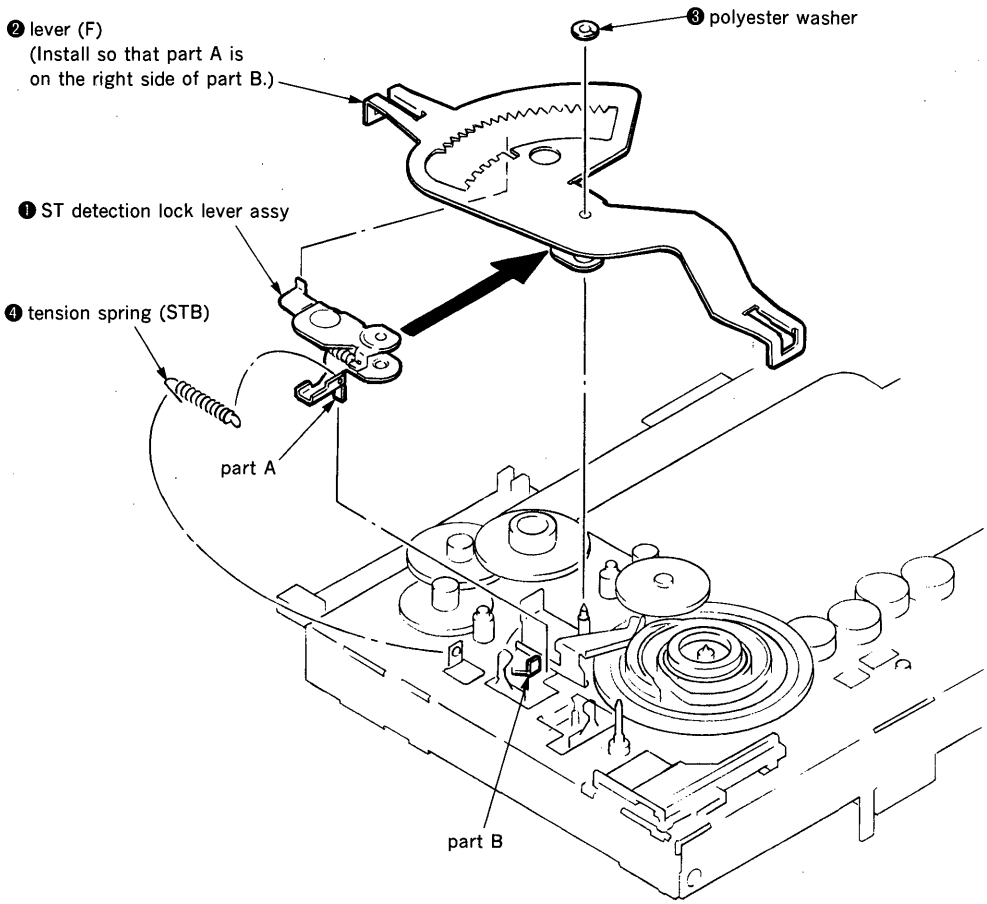
File this supplement with the service manual.

ASSEMBLY OF CD CHANGER SECTION

ASSEMBLY OF CD CHANGER SECTION

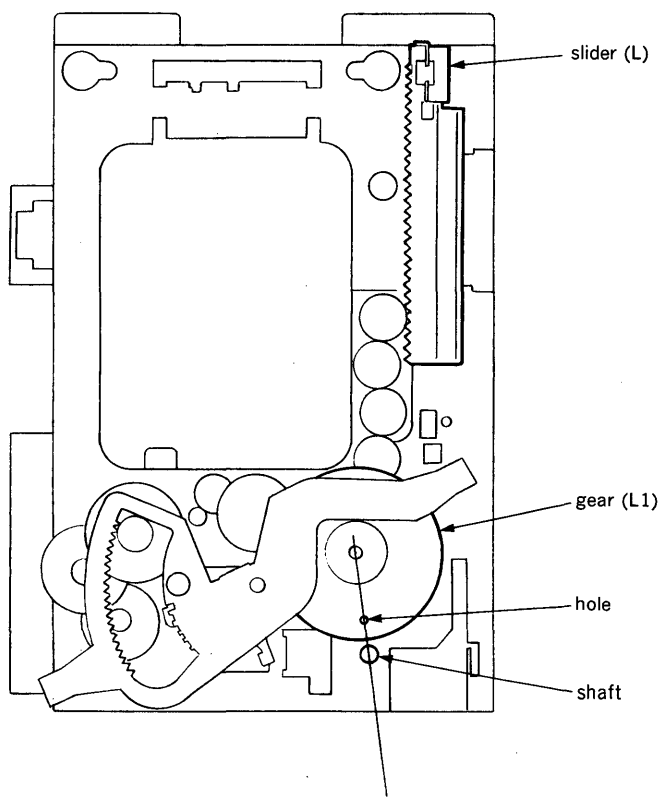
Note : Follow the assembly procedure in the numerical order given.

1. INSTALLING THE LEVER (F)


❷ lever (F)
(Install so that part A is on the right side of part B.)
❸ polyester washer
❶ ST detection lock lever assy
❹ tension spring (STB)
part A
part B

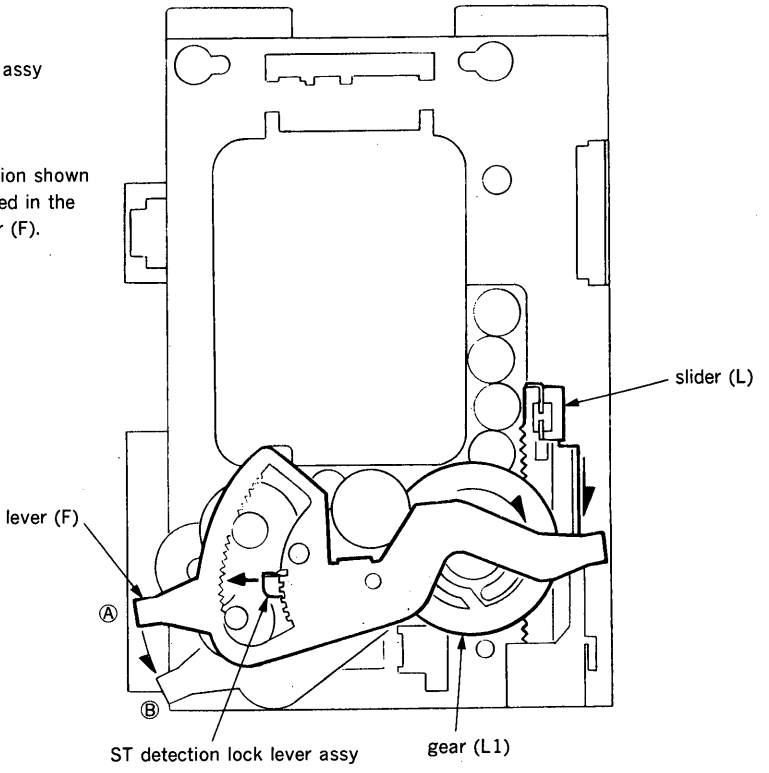
2. INSTALLING THE SLIDER (L)

1) Align the hole in the gear (L1) with the position shown in the figure.
2) Truing to the edge of the chassis, install the slider (L).

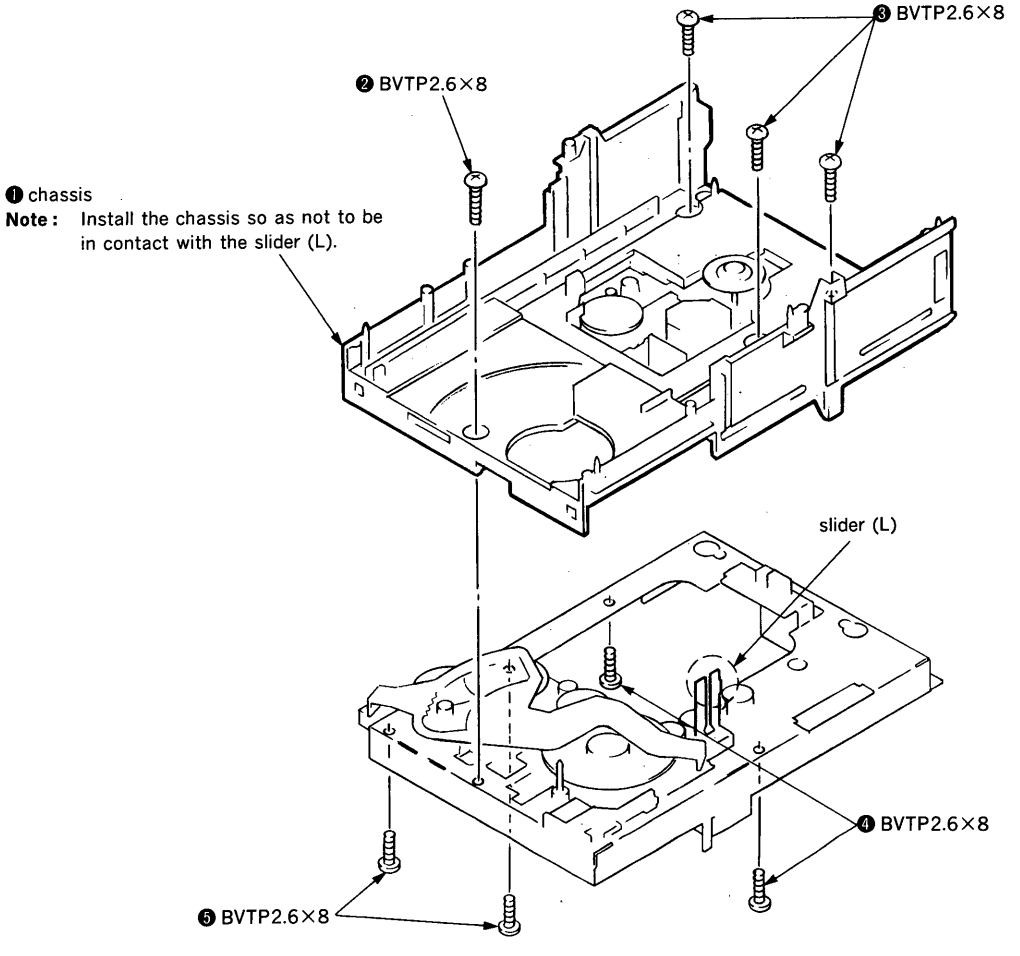


3. INSTALLING THE CHASSIS (1)

1) Put the level (F) to position Ⓐ.
   (Position so that the claw on ST detection lock lever assy is in the middle of the groove on lever (F).)
2) Turn the gear (L1) in the arrow direction, and move the slider (L) in the arrow direction.
3) Make sure that when the gear (L1) is set in the position shown in the figure, the ST detection lock lever assy is moved in the direction of arrow and is not in contact with the lever (F).
4) Move the lever (F) from position Ⓐ to position Ⓑ.

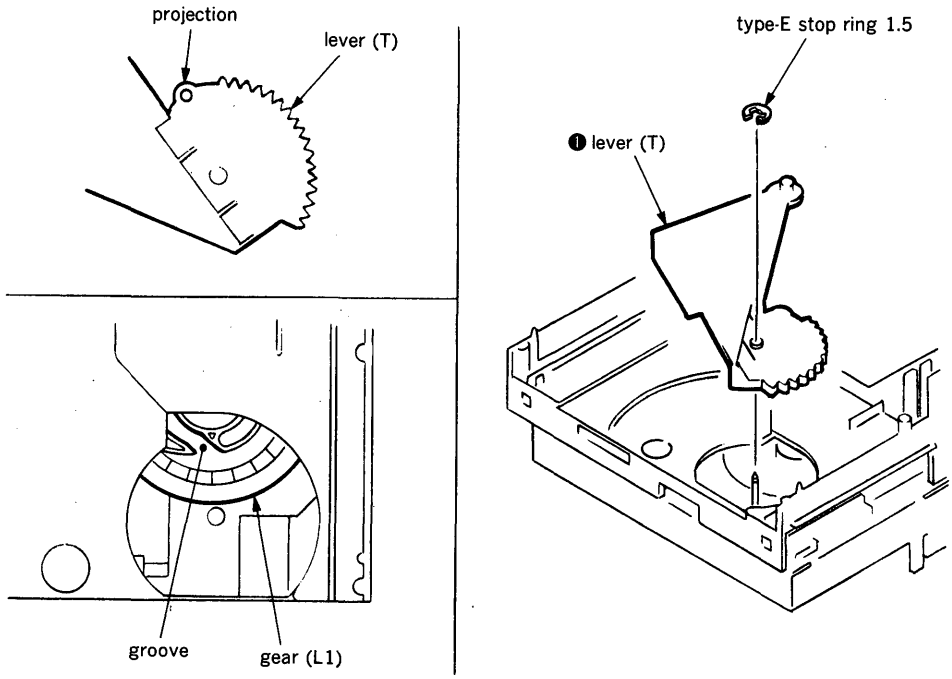


4. INSTALLING THE CHASSIS (2)


❸ BVTP2.6×8
❷ BVTP2.6×8
❶ chassis
Note : Install the chassis so as not to be in contact with the slider (L).
slider (L)
❹ BVTP2.6×8
❺ BVTP2.6×8

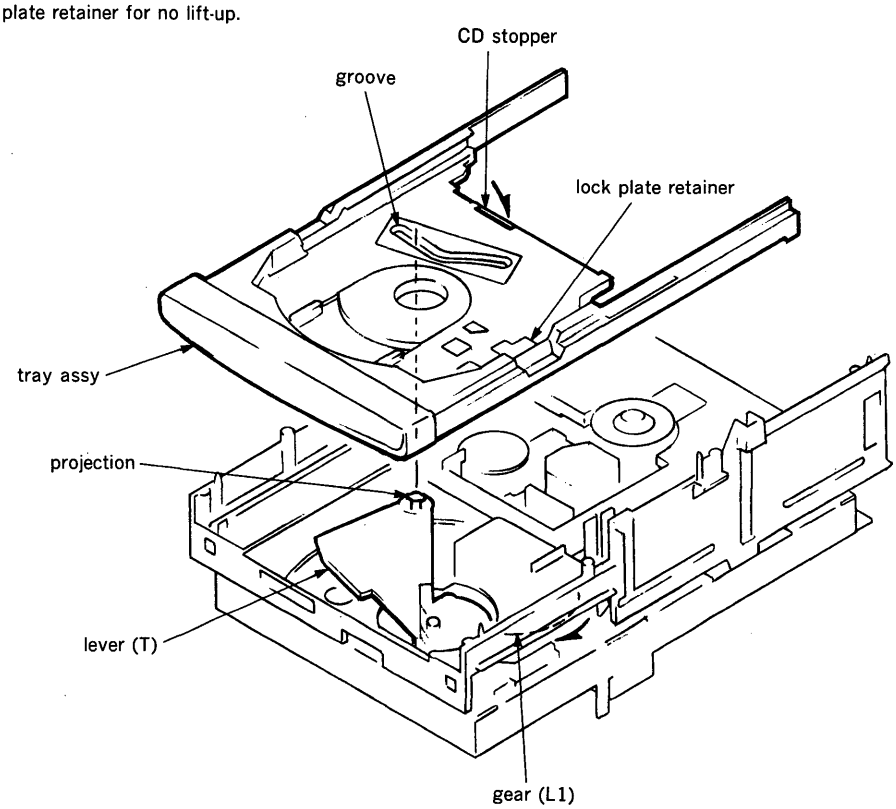
5. INSTALLING THE LEVER (T)

Fit the projection of the lever (T) in the groove on the gear (L1) and install the lever (T).



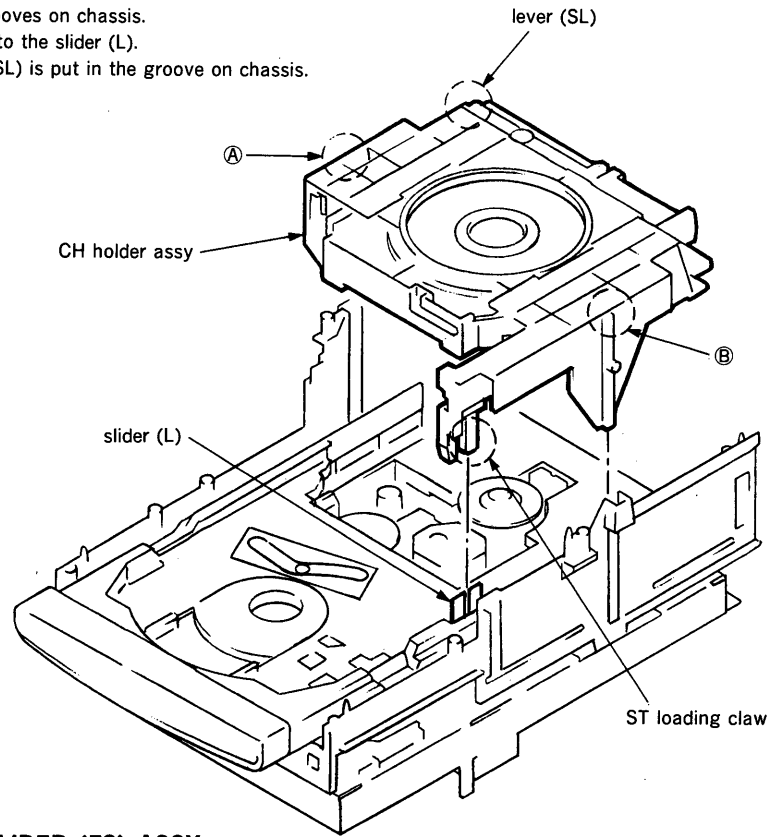
6. INSTALLING THE TRAY ASSY

1) Turn the gear (L1) somewhat in the arrow direction.
2) Align the groove on tray assy with the projection on lever (T).
3) Replace the gear (L1) to the original position.
4) Make sure that the CD stopper is put in the arrow diection.
5) Check the lock plate retainer for no lift-up.



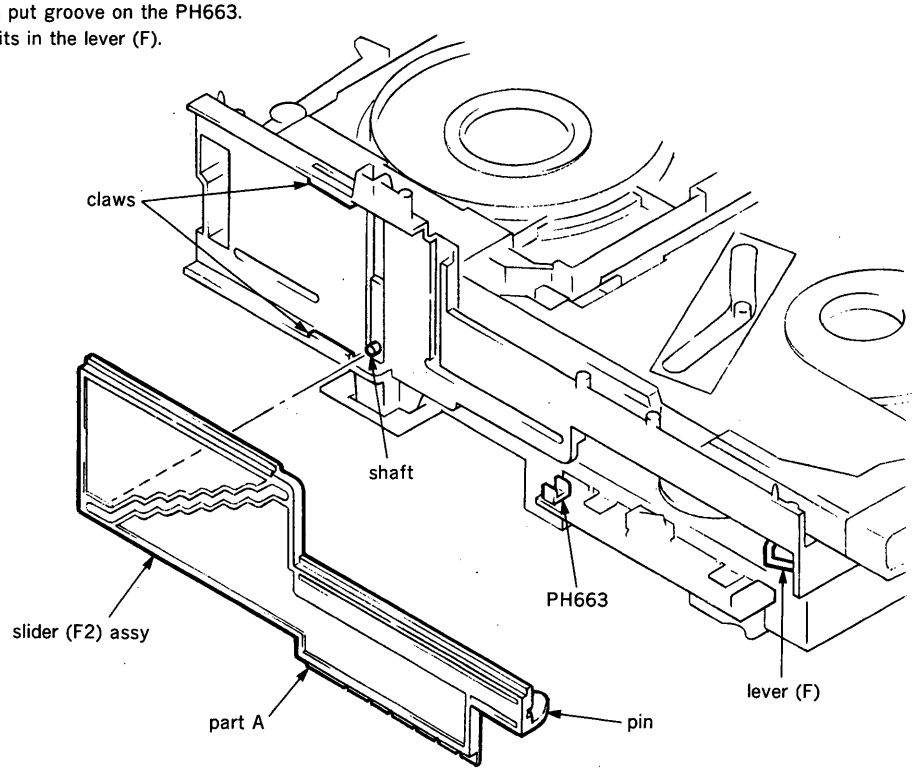
7. INSTALLING THE CH HOLDER ASSY

1) Install the ST loading claw to the CH holder assy.
2) Align part Ⓐ and part Ⓑ of CH holder assy with the corresponding grooves on chassis.
3) Fit the ST loading claw onto the slider (L).
4) Make sure that the lever (SL) is put in the groove on chassis.



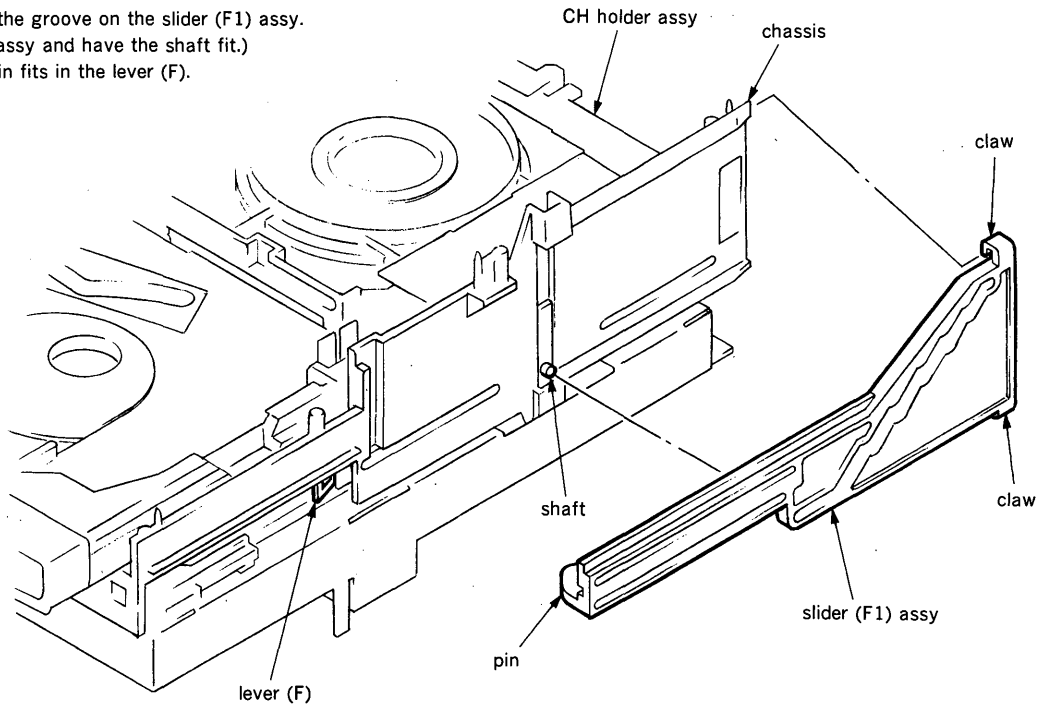
8. INSTALLING THE SLIDER (F2) ASSY

1) Fit the slider (F2) assy in between the claws.
2) Allow the shaft to fit in the groove on the slider (F2) assy.
3) Make sure that part A is put groove on the PH663.
4) Make sure that the pin fits in the lever (F).



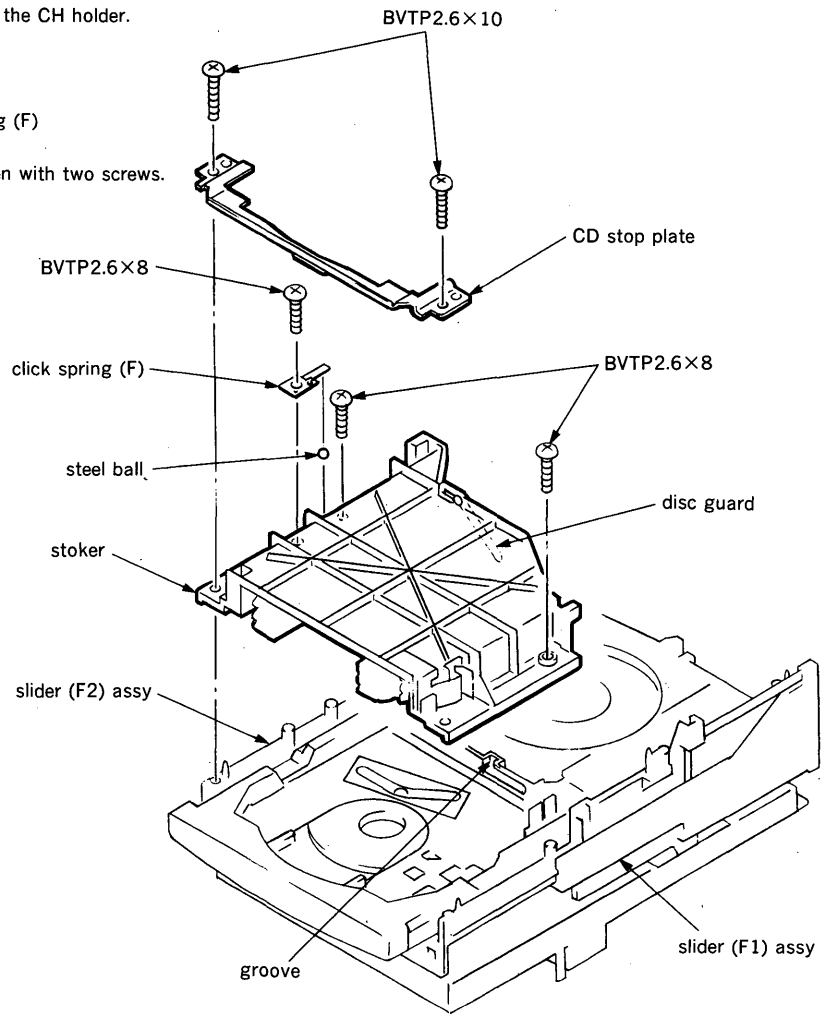
9. INSTALLING THE SLIDER (F1) ASSY

1) Fit the two claws onto the chassis.
2) Have the shaft fit is the groove on the slider (F1) assy.
   (Hold the CH holder assy and have the shaft fit.)
3) Make sure that the pin fits in the lever (F).

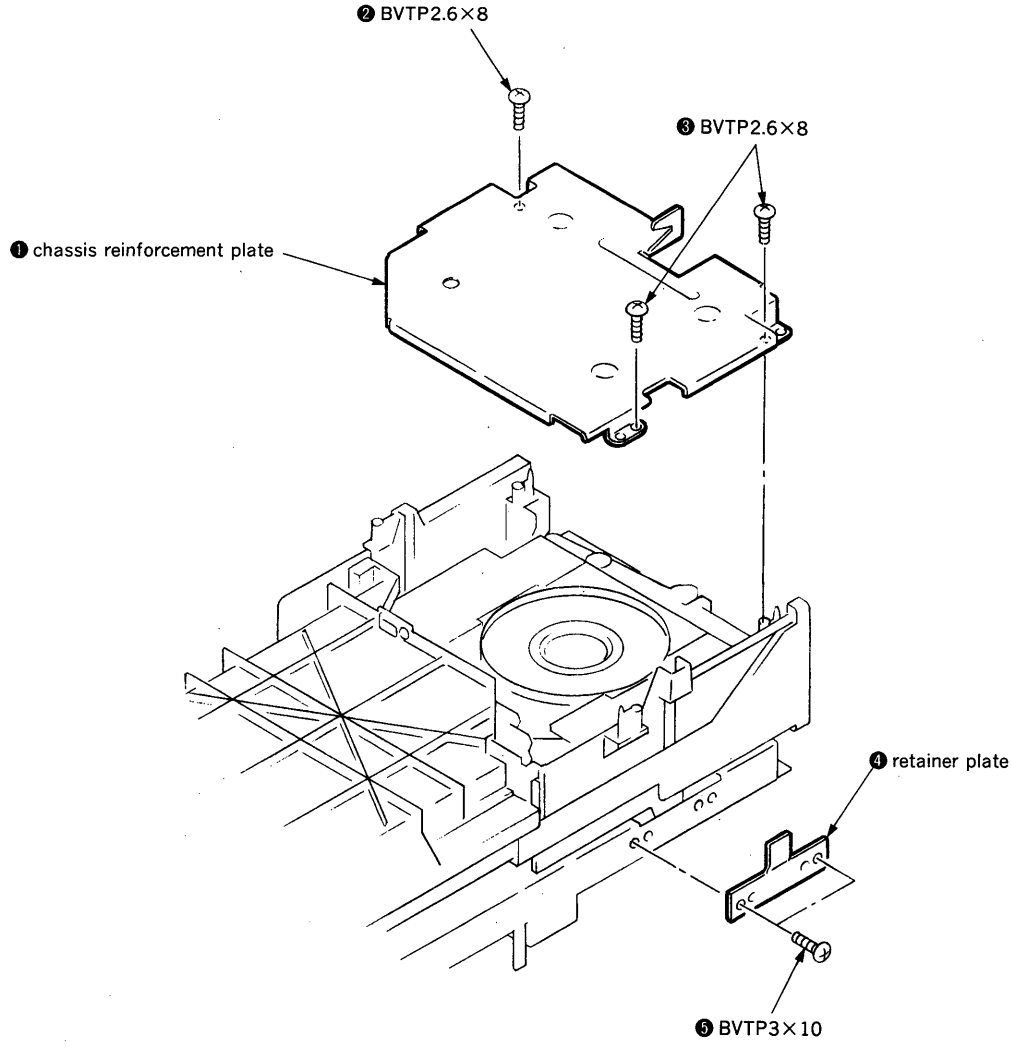


10. INSTALLING THE STOCKER

1) Install the tray to the stoker.
2) Fit the disc guard in the groove on the CH holder.
3) Install the stoker.
   (The slider (F1, F2) assemblies
   should be in the inside of stoker.)
4) Install the steel ball and click spring (F)
   and tighten with screw.
5) Install the CD stop plate and tighten with two screws.
6) Install two screws.



11. INSTALLING THE CHASSIS REINFORCEMENT PLATE



Sony Corporation
Consumer A & V Products Company
Personal A & V Products Div.

9-960-240-83

English
95K047544-1
Printed in Germany
© 1995. 11

Published by Home A & V Products Div.
Quality Engineering Dept.